PLANNING COMMISSION - PC - SPECIAL MEETING

WEDNESDAY, OCTOBER 19, 2022

COUNCIL CHAMBERS 23873 CLINTON KEITH ROAD SUITE 106 WILDOMAR, CA 92595
SPECIAL SESSION 6:30 PM

Kim Strong - Chair
Eric Filar - Vice Chair
Arrin Banks - Commissioner
Brianna Bernard - Commissioner
John Lloyd - Commissioner

Matthew Bassi - Planning Director Erica Vega, Assistant City Attorney

The City of Wildomar will be a Safe and Active Community with Responsible Growth and Quality Infrastructure while keeping a Hometown Feel

NOTICE:
Planning Commission meetings may be live-streamed, photographed, and/or videotaped. Participation at the meeting constitutes consent by members of the public to the City's and any third party's use in any media, without compensation or further notice, of audio, video, and/or pictures of meeting attendees.

CALL TO ORDER – SPECIAL SESSION - 6:30 P.M.

ROLL CALL

FLAG SALUTE

PUBLIC COMMENTS
This is the time when the Commission receives general public comments regarding any items or matters within the jurisdiction that do not appear on the agenda.

APPROVAL OF THE AGENDA AS PRESENTED
The Planning Commission to approve the agenda as it is herein presented, or, if it is the desire of the Planning Commission, the agenda can be reordered, added to, or have items tabled at this time.

1. CONSENT CALENDAR
All matters listed under the Consent Calendar are considered routine and will be enacted by one roll call vote. There will be no separate discussion of these items unless members of the Commission, the Public, or Staff request to have specific items removed from the Consent Calendar for separate discussion and/or action.

1.1 Planning Commission Minutes, July 6, 2022 Regular Meeting:

RECOMMENDATION:
Staff recommends the Planning Commission approve the July 6, 2022, regular meeting minutes as submitted.

2. PUBLIC HEARINGS

2.1 Wildomar Crossroads Mixed-Use Project (PA 21-0145)

RECOMMENDATION:

The Planning Department recommends the Planning Commission take the following actions:

1. Adopt a Resolution entitled:

PC RESOLUTION NO. 2022-26

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, ADOPTING A MITIGATED NEGATIVE DECLARATION/MITIGATION MONITORING AND REPORTING PROGRAM (SCH# 2022080339) FOR TENTATIVE PARCEL MAP NO. 3833, CONDITIONAL USE PERMIT NO. 21-0145, AND PLOT PLAN NO. 21-0145 LOCATED AT THE NORTHWEST CORNER OF WILDOMAR TRAIL AND CLINTON KEITH ROAD (APN: 376-410-015, -016, -017, & -021)

2. Adopt a Resolution entitled:

PC RESOLUTION NO. 2022-27

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING TENTATIVE PARCEL MAP NO. 38333 TO SUBDIVIDE A 9.05-ACRE SITE INTO FIVE (5) PARCELS TO ACCOMMODATE THE DEVELOPMENT OF THE WILDOMAR CROSSROADS MIXED-USE PROJECT LOCATED AT THE NORTHWEST CORNER OF WILDOMAR TRAIL AND CLINTON KEITH ROAD (APN: 376-410-015, -016, -017, & -021)

3. Adopt a Resolution entitled:

PC RESOLUTION NO. 2022-28

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING CONDITIONAL USE PERMIT NO. 21-0145 (TO ALLOW GROCERY STORE SALE OF ALCOHOL) AND PLOT PLAN NO. 21-0145 TO DEVELOP A 34,540 SQUARE-FOOT MULTI-TENANT RETAIL CENTER AND A 150-UNIT GATED APARTMENT PROJECT ON A 9.05-ACRE SITE IN THE C-P-S ZONE, SUBJECT TO CONDITIONS, TO ACCOMMODATE THE DEVELOPMENT OF THE WILDOMAR CROSSROADS MIXED-USE PROJECT LOCATED AT THE NORTHWEST CORNER OF WILDOMAR TRAIL AND CLINTON KEITH ROAD (APN: 376-410-015, -016, -017, & -021)

3. GENERAL BUSINESS

3.1 Proper Findings in Land Use Decisions

RECOMMENDATION:

The Planning Department recommends the Planning Commission Receive and File this presentation.

PLANNING COMMISSION COMMUNICATIONS

PLANNING DIRECTOR REPORT

CITY ATTORNEY REPORT

FUTURE AGENDA ITEMS

ADJOURN THE MEETING

The City of Wildomar encourages your participation in the meeting. The following options are available for the public to participate:

1. You may view the Regular Session meeting live on the City of Wildomar's website at http://www.cityofwildomar.org or on cable TV through Frontier Channel 36 or AT&T channel 99. To view from the website, select the live stream link on the top of the front page.

2. You may participate in person.

PUBLIC COMMENT: During Public Comment not on the agenda and after each Agenda Item, the Chair will announce Public Comment. If you would like to speak on that item, please fill out a speaker slip and submit it in the inbox at the front of the room. When the City Clerk announces your name, please come up to the podium. Public Comments are limited to 3 minutes or such other time as the Commission may provide. Commissioners are not allowed to respond to public comments.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, you should contact the City Clerk's Office at 951-677-7751 x210.

REPORTS: All agenda items and reports are available for review at City Hall, 23873 Clinton Keith Road and on the City's website at the following address: http://www.cityofwildomar.org/government/agendas___minutes. Any writings or documents provided to a majority of the Planning Commission regarding any item on this agenda (other than writings legally exempt from public disclosure) will be made available by appointment for public inspection at City Hall during regular business hours.

If requested, the agenda and backup materials will be made available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans With Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and the federal rules and regulations adopted in implementation thereof. Any person that requires a disability-related modification or accommodation, including auxiliary aids or services, in order to participate in the public meeting, may request such modification, accommodation, aid or service by contacting the City Clerk either in person or by phone at 951-677-7751, no later than 10:00 a.m. on the day preceding the scheduled meeting.

AFFIDAVIT OF POSTING

I, Jandi Aguilar, Wildomar Admin. Analyst, do certify that at least 72 hours prior to the meeting, a true and correct copy of this agenda was posted at Wildomar City Hall, 23873 Clinton Keith Road; U.S. Post Office, 21392 Palomar Street; Wildomar Library, 34303 Mission Trail Blvd; and on the City's website at www.cityofwildomar.org.

Jandi Aguilar
Admin. Analyst
Dated: 10-11-22

CITY OF WILDOMAR - PC - SPECIAL MEETING
CONSENT CALENDAR
Agenda Staff Report # 1.1
Meeting Date: October 19, 2022

SUBJECT: Planning Commission Minutes, July 6, 2022 Regular Meeting:

SUBMITTED BY: Janet Morales, Planning

PREPARED BY: Matthew Bassi, Planning Director

ACTION:
Staff recommends the Planning Commission approve the July 6, 2022, regular meeting minutes as submitted.

ATTACHMENTS:
07-06-22-Regular PC Minutes-final.pdf

AGENDA ITEM No. 1.1

CITY OF WILDOMAR
OFFICIAL PLANNING COMMISSION MEETING MINUTES
FOR THE REGULAR MEETING ON JULY 6, 2022

CALL TO ORDER:
The Regular meeting of the Wildomar Planning Commission was called to order by Planning Commission Chair Strong at 6:30 P.M. at Wildomar City Hall, Council Chambers.

ROLL CALL:

Present:	Kim Strong, Chair
	Eric Filar, Vice-Chair
	Commissioner Arrin Banks
	Commissioner Brianna Bernard
	Commissioner John Lloyd
Staff Present	Matthew Bassi, Planning Director
	Stephanie Gutierrez, City Attorney
	Abdu Lachgar, AICP, Associate Planner
	Kimberley Davison, Economic Development Director
	Janet Morales, City Clerk
	Jason Farag, Senior Engineer
	Patrick Lopez, IT Specialist
Absent:	None

FLAG SALUTE:
Commissioner Banks led the flag salute.

PUBLIC COMMENTS:
None.

APPROVAL OF AGENDA AS PRESENTED
Chair Strong asked if there were changes to the agenda.

Director Bassi stated there were no changes.

1.0 CONSENT CALENDAR ITEMS

1.1 Planning Commission Minutes – April 6, 2022, Regular Meeting:

A **Motion** was made by Commissioner Lloyd seconded by Vice-Chair Filar to approve the regular meeting minutes.

The **Motion** Carried, 3-0-0-2, with the following vote resulted:

AYES: STRONG, FILAR, LLOYD

NOES:

ABSENT:

ABSTAIN: BANKS, BERNARD

1.2 Planning Commission Minutes – May 18, 2022 Special Meeting:

A **Motion** was made by Commissioner Lloyd seconded by Chair Strong to approve the regular meeting minutes.

The **Motion** Carried, 3-0-0-2, with the following vote resulted:

AYES: STRONG, BANKS, LLOYD

NOES:

ABSENT:

ABSTAIN: FILAR, BERNARD

2.0 PUBLIC HEARING ITEMS:

2.1 Zoning Ordinance Amendment No. 2022-05 (TUP Code Amendment):

Planning Commission consideration of a General Rule Exemption and a proposed Zoning Ordinance Amendment to adopt comprehensive regulations for temporary use permits.

Chair Strong read the title and opened the public hearing.

Associate Planner Lachgar presented the staff report.

With no public speakers, Chair Strong closed the public hearing and asked for a Commission discussion.

A **Motion** was made by Vice-chair Filar and seconded by Commissioner Bernard to adopt a Resolution entitled:

PC RESOLUTION NO. 2022-22

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, RECOMMENDING CITY COUNCIL ADOPTION A GENERAL RULE EXEMPTION IN ACCORDANCE WITH SECTION 15061(B)(3) OF CEQA, AND APPROVAL OF ZONING ORDINANCE AMENDMENT NO 2022-05 TO ADOPT COMPREHENSIVE REGULATIONS FOR TEMPORARY USE PERMITS

The **Motion** Carried, 4 – 0 - 1, with the following vote resulted:

AYES: STRONG, FILAR, BANKS, BERNARD

NOES:

ABSENT: LLOYD

ABSTAIN:

2.2 Zoning Ordinance Amendment No. 2022-06 (SB 9 Code Amendment):

Planning Commission consideration of a proposed zoning ordinance amendment to revise the Wildomar Municipal Code (Title 16 and Title 17) to address new, state regulations of SB 9 (Government Code Sections 66411.7 and 65852.21 pertaining to urban lot splits and two-unit (2) developments in the City of Wildomar.

Chair Strong read the title and opened the public hearing.

Associate Planner Lachgar presented the staff report.

With no public speakers, Chair Strong closed the public hearing and asked for a Commission discussion

A **Motion** was made by Commissioner Banks seconded by Chair Strong to adopt a Resolution entitled:

PC RESOLUTION NO. 2022-23

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, RECOMMENDING CITY COUNCIL APPROVAL OF AN AMENDMENT (ZOA 2022-06) TO THE WILDOMAR MUNICIPAL CODE TO ADD A NEW CHAPTER 16.72 TO TITLE 16 (SUBDIVISIONS), ADD A NEW SUBSECTION 17.204.110 TO CHAPTER 17.204 (ACCESSORY DWELLING UNITS), AND ADD A NEW CHAPTER 17.320 TO TITLE 17 (ZONING) FOR THE IMPLEMENTATION OF GOVERNMENT CODE SECTIONS 66411.7 AND 65852.21 (SB 9) RELATED TO URBAN LOT SPLITS AND TWO (2)-UNIT DEVELOPMENTS

The **Motion** Carried, 5 – 0 - 0, with the following vote resulted:

AYES: STRONG, FILAR, BANKS, BERNARD, LLOYD

NOES:

ABSENT:

ABSTAIN:

3.0 GENERAL BUSINESS ITEMS

3.1 Baxter Village Mixed-Use Project – EOT #2 (PA 14-0002):

Planning Commission review and consideration of a 2-year Extension of Time (EOT #2 of 3) for Tentative Tract Map No. 36674 and Plot Plan No. 14-0002 to develop the single-family and multi-family residential portions of the Baxter Village Mixed-Use project generally located at the northwest corner of Wildomar Trail and I-15 Freeway (APN: 367-180-063).

Chair Strong read the title and opened the item for public comments

Associate Planner Lachgar presented the staff report.

Dwyane McGee, resident, provided public comment stating that the White Road is plagued with heavy traffic and excessive trash dumping.

Michael Smith, resident, provided public comment.

With no further public comments, Chair Strong asked for Commission discussion

A **Motion** was made by Vice-Chair Filar and seconded by Commissioner Banks to adopt a Resolution entitled:

PC RESOLUTION NO. 2022-24

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING A 2-YEAR EXTENSION OF TIME TO JULY 13, 2024 FOR TENTATIVE TRACT MAP NO. 36674 AND PLOT PLAN NO. 14-0002 TO DEVELOP THE SINGLE-FAMILY AND MULTI-FAMILY RESIDENTIAL PORTIONS OF THE BAXTER VILLAGE MIXED-USE PROJECT (APN: 380-250-003) AND A DETERMINATION THAT ADDITIONAL ENVIRONMENTAL REVIEW IS NOT REQUIRED PER CEQA GUIDELINES SECTION 15162

The **Motion** Carried, 5 – 0 - 0, with the following vote resulted:

AYES: STRONG, FILAR, BANKS, BERNARD, LLOYD

NOES:

ABSENT:

ABSTAIN:

3.2 General Plan Consistency For Capital Improvement Program (FY 22/23):

Planning Commission's Annual Review of the Public Works Departments' FY 2022/23 Capital Improvement Program making a finding of General Plan Consistency.

Chair Strong read the title and item for public comments.

Senior Engineer Farag presented the staff report.

With no further public comments, Chair Strong asked for Commission discussion

A **Motion** was made by Commissioner Lloyd and seconded by Chair Strong to adopt a Resolution entitled:

PC RESOLUTION NO. 2022-25

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, DETERMINING THAT FISCAL YEAR 2022/23 CIP PROJECTS OF THE FY 2022/23 – 2026/27) FIVE-YEAR CAPITAL IMPROVEMENT PROGRAM (CIP) IS IN CONFORMANCE WITH THE CITY OF WILDOMAR GENERAL PLAN

The **Motion** Carried, 5 – 0 - 0, with the following vote resulted:

AYES: STRONG, FILAR, BANKS, BERNARD, LLOYD

NOES:

ABSENT:

ABSTAIN:

PLANNING COMMISSION COMMUNICATIONS

None.

PLANNING DIRECTOR REPORT

1. Director Bassi confirmed there will be an August 3, 2022 planning Commission meeting
2. Director Bassi gave a briefing on the General Plan Update progress.
3. Director Bassi asked about revising eh Commission meeting starting time to 6:00 pm instead of 6:30.
4. City Clerk Morales provided an update on the new Agenda management system coming next month

CITY ATTORNEY REPORT

None.

FUTURE AGENDA ITEMS
None.

ADJOURNMENT
Chair Strong adjourned the July 6, 2022, Planning Commission meeting at 7:19 P.M.

Submitted By:

Matthew C. Bassi
Planning Director/Minutes Secretary

CITY OF WILDOMAR - PC - SPECIAL MEETING
PUBLIC HEARING
Agenda Staff Report # 2.1
Meeting Date: October 19, 2022

SUBJECT: Wildomar Crossroads Mixed-Use Project (PA 21-0145)

SUBMITTED BY: Janet Morales, Planning

PREPARED BY: Matthew Bassi, Planning Director

ACTION:
The Planning Department recommends the Planning Commission take the following actions:

1. Adopt a Resolution entitled:

PC RESOLUTION NO. 2022-26

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, ADOPTING A MITIGATED NEGATIVE DECLARATION/MITIGATION MONITORING AND REPORTING PROGRAM (SCH# 2022080339) FOR TENTATIVE PARCEL MAP NO. 3833, CONDITIONAL USE PERMIT NO. 21-0145, AND PLOT PLAN NO. 21-0145 LOCATED AT THE NORTHWEST CORNER OF WILDOMAR TRAIL AND CLINTON KEITH ROAD (APN: 376-410-015, -016, -017, & -021)

2. Adopt a Resolution entitled:

PC RESOLUTION NO. 2022-27

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING TENTATIVE PARCEL MAP NO. 38333 TO SUBDIVIDE A 9.05-ACRE SITE INTO FIVE (5) PARCELS TO ACCOMMODATE THE DEVELOPMENT OF THE WILDOMAR CROSSROADS MIXED-USE PROJECT LOCATED AT THE NORTHWEST CORNER OF WILDOMAR TRAIL AND CLINTON KEITH ROAD (APN: 376-410-015, -016, -017, & -021)

3. Adopt a Resolution entitled:

PC RESOLUTION NO. 2022-28

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR,

CALIFORNIA, APPROVING CONDITIONAL USE PERMIT NO. 21-0145 (TO ALLOW GROCERY STORE SALE OF ALCOHOL) AND PLOT PLAN NO. 21-0145 TO DEVELOP A 34,540 SQUARE-FOOT MULTI-TENANT RETAIL CENTER AND A 150-UNIT GATED APARTMENT PROJECT ON A 9.05-ACRE SITE IN THE C-P-S ZONE, SUBJECT TO CONDITIONS, TO ACCOMMODATE THE DEVELOPMENT OF THE WILDOMAR CROSSROADS MIXED-USE PROJECT LOCATED AT THE NORTHWEST CORNER OF WILDOMAR TRAIL AND CLINTON KEITH ROAD (APN: 376-410-015, -016, -017, & -021)

FISCAL IMPACT:

The Wildomar Crossroads project will not have a fiscal impact on the city's general fund. In accordance with the Development Impact Fee (DIF) ordinance adopted by Council in December 2021. The City DIF fees (150 mfr units / 34,540 s.f. retail) will be approximately $2,823,000. Required regional impact fees (i.e., TUMF, MSHCP, LEUSD, SKR, etc.) are approximately $2,112,000. Total impact fees equal approximately $4,935,000. These fees are paid typically prior to the issuance of building permits or occupancy permits. In addition, the project is conditioned to be annexed into the city-wide CFD 2022-1 which will pay its fair share of park maintenance fees through the CFD services and the equivalent share of the Measure Z tax of $28/year/unit. The CFD revenue will be determined and finalized based on final engineering and building plans and the level of maintenance required.

PROJECT DESCRIPTION:

The Applicant's (Intracorp, Inc. & Sage Investco, Inc.) are proposing the Wildomar Crossroads Mixed-Use project (PA 21-0145) consisting of an Initial Study/Mitigated Negative Declaration (MND), Tentative Parcel Map Conditional Use Permit, and Plot Plan to develop a 34,540 square-foot multi-tenant retail center and 150-unit gated apartment project. The proposed project consists of the following applications for review and consideration by the Planning Commission.

Mitigated Negative Declaration & Mitigation Monitoring & Reporting Program:

In the course of the preliminary review of the proposed project, the Planning Director determined that there was substantial evidence that the Wildomar Crossroads project may have one or more significant effects on the environment. Therefore, in accordance with Section 15070 of the California Environmental Quality Act (CEQA) Guidelines, the proposed project requires the preparation, review, and adoption of an MND and MMRP (SCH# 2022080339). The Planning Commission has the sole authority to review and make a decision on the MND/MMRP. The discussion for the MND is provided in the Analysis section of this staff report and the Findings are provided in PC Resolution No. 2022-26 (Attachment A).

Tentative Parcel Map (TPM) No. 38333 (PA 21-0145):

In accordance with Title 16.12 (Subdivisions) of the Wildomar Municipal Code (WMC), the proposed project requires approval of Tentative Parcel Map, subject to conditions, to subdivide the 9.05-acre site into five (5) parcels to develop the mixed-use project as presented in Plot

Plan No. 21-0145. The Planning Commission has the sole authority to review and make a decision on the proposed parcel map. The discussion for the TPM is provided in the Analysis section of this staff report and the Findings are provided in PC Resolution No. 2022-27 (Attachment B). The proposed TPM No. 38333 exhibit is provided for Commission review (Attachment D).

Conditional Use Permit No. 21-0145:

In accordance with Section 17.248 of the WMC, the proposed project requires approval of a CUP to establish alcohol sales for off-site consumption for the proposed Sprouts Farmers Market grocery store building. The CUP discussion is provided in the Analysis section of this staff report and the Findings are provided in PC Resolution No. 2022-28 (Attachment C).

Plot Plan No. 21-0145:

Also, in accordance with Section 17.216 of the WMC, the project requires approval of a Plot Plan (combined for the commercial and residential portions of the project) to develop the 9.05-acre site with the 34,540 square-foot multi-tenant retail center (Parcels 1 - 4) and the 150-unit gated multi-family apartment project (Parcel 5) consistent with the City's commercial and multi-family design standards and guidelines, including full on-site and off-site improvements per the WMC. The proposed mixed-use project has been designed so that it achieves a horizontal mixed-use design between the commercial and residential parcels with full pedestrian access without having to walk along Clinton Keith Road and Wildomar Trial.

Commercial Retail Site Plan Layout:

The proposed commercial/retail site comprises 5.03 acres in size and will include a 34,450 square-foot retail center with a Sprouts Farmers Market, multi-tenant retail uses retail and a couple of restaurant uses. The building sizes are as follows:

- Major A (Sprouts Farmers Market) - This building is 23,104 square feet in size and is planned for grocery store use with alcohol sales and an associated parking area (reciprocal). The truck delivery/dock area is located on the north side of the building about 200 feet west of Wildomar Trail. The dock area will be screened by a 6-foot tall decorative block wall on the north side of the dock area. The wall will block and obscure the view from southbound traffic on Wildomar Trail. The sale of alcohol by Sprouts requires CUP approval and is discussed in the CUP section of the staff report. The architectural design proposed is "Farm Chic" which is consistent with the City's Commercial Design Standards and Guidelines.

- Shops 1 Building – This building is 4,213 square feet in size and is attached to the Sprouts store. It is intended as a multi-tenant building with up to 3 or 4 users depending on the need with an associated parking area (reciprocal). The building has been designed to include some outdoor seating on the sidewalk in front of the lease spaces if a food user leases the space. The architectural design proposed is "Farm Chic" which is

consistent with the City's Commercial Design Standards and Guidelines.

- Pad 1 Building – This building is 3,500 square feet in size and is designed to accommodate retail users and a restaurant use with associated parking. Attached to the building is a 1,133 square-foot drive-through coffee shop with associated drive-through lanes (the lanes/stacking meets city codes). The drive-through lanes near the "pick-up" window are designed with an "escape lane." If someone is already waiting at the drive-up window, a coffee shop attendant will walk an order to the client waiting on the outside lane which enables them to then bypass the person at the window. The Applicant explains that this design greatly increases the flow of cars through the drive-thru, thereby existing much quicker. The Applicant does not have an agreement with a coffee shop user at this time but is marketing the building as such. The architectural design proposed is also "Farm Chic" which is consistent with the City's Commercial Design Standards and Guidelines.

- Pad 2 Building - This building is 3,610 square feet in size and is solely intended as a fast food/drive-through restaurant with outdoor seating and a drive-through lane and associated parking. No lease has been secured at this time either. The architectural design proposed is also "Farm Chic" which is consistent with the City's Commercial Design Standards and Guidelines.

C-P-S Development Standards (Chapter 17.76.030):

The uses planned for the commercial retail center are permitted uses in the C-P-S zone as outlined in Chapter 17.76 of the WMC. The retail center has been designed to meet and exceed the development standards of the C-P-S zone as discussed below. The overall theme of the center (Farm Chic) is consistent with the City's Commercial Design Standards and Guidelines. A copy of the overall site plan and architectural elevations, landscaping, etc. is provided in Attachments E – H.

Physical development of the commercial retail center is subject to the development standards of Chapter 17.76.030 of the C-P-S zone. This code section establishes standards and requirements related to lot area, setbacks, building height, etc. The retail project is consistent with the C-P-S zone standards. Refer to Attachment I for the C-P-S Zone (Chapter 17.76) Development Standards Table.

Off-Street Parking (Chapter 17.188):

The proposed commercial retail development is subject to the parking requirements outlined in Chapter 17.188.030 of the WMC. Based on the square footage of the proposed project, the Applicant is required to provide 5.5 spaces/1,000 square feet of the net leasable floor area of all the buildings. The application package was submitted prior to the effective date of Ordinance No. 204 (12/10/21) which established the new parking requirement of 6.0 spaces/1,000 square feet. Given the size of the retail center at 34,450 square feet, the retail

project must provide a minimum of 190 parking spaces. The Applicant is providing a total of 195 parking spaces which exceeds the minimum standard. The Applicant has proposed and is conditioned to record a reciprocal access and parking agreement for the entire site that will allow flexibility in the location of the stalls. The design of the parking stalls and aisle widths meet and exceed code requirements, including Riverside County Fire standards. In addition, the project is providing six (6) accessible spaces, 16 clean air vehicle spaces, and 10 electric vehicle charging stations in compliance with the 2019 California Building Code and 2019 Cal Green Code. Lastly, the two drive-through restaurants include vehicle stacking for 12 cars (2 lanes) in accordance with parking code requirements.

Pedestrian Circulation/Connectivity:

Pedestrian circulation is an important element of a mixed-use project. The Applicant has designed the retail center to allow for easy pedestrian access between the grocery store and other commercial uses throughout the site. More importantly, the center has been designed with the goal of easy pedestrian access between the retail and apartment community as part of the mixed-use design. In fact, the whole project area is intended to be mass graded so that the elevation change between the apartment community and retail center is minimal. It is staff's opinion that this concept really facilitates and enhances the "horizontal" mixed-use design (i.e., easy walkability). The proposed landscape plan (Pdf page 8 of Attachment E) shows this connectivity relationship.

Vehicular Traffic/Access:

Primary vehicular access to and from the commercial retail site and apartment community will be provided via entrances on Catt Road (south end of the site) and Wildomar Trail (east end of the site). There will be no vehicular connection between the two sites to better encourage/emphasize pedestrian connectivity. The retail center has three drive approaches on Wildomar Trail leading to and from the site with the southerly most driveway being limited to a "right-in & right-out" design. The other two drive approaches have full turning movements as they are far enough away from the Clinton Keith/Wildomar Trail intersection to avoid northbound/southbound conflicts.

The apartment community has a second-drive approach on the northerly edge of the site along Wildomar Trail. This drive approach has full turning movements and will be adjacent to a linear parking area for the community. A second exit/entrance to the apartment community occurs from Catt Road via Arya Road. Both streets will be fully improved with the project to provide better vehicular access than currently exists. A detailed traffic study was prepared for the project as part of the MND process that evaluated access on all streets servicing the project. It was determined that the proposed site design would not create unsafe vehicular or pedestrian movements. Based on the traffic analysis, the Public Works Department is proposing several conditions requiring specific improvements to create safe vehicular access to and from the site. Further, the site has been planned appropriately and the location and need for dedication and improvement of necessary streets and sidewalks, including the

avoidance of traffic congestion have been addressed. All street improvements will be constructed along the project boundaries in accordance with Public Works standards (including curb, gutter and sidewalks) to facilitate the safe off-site and on-site traffic flow generated by the project.

Landscaping Plan:

The Applicant has provided a detailed conceptual landscape plan for staff review as part of the development review process. The landscape plan was designed to meet the requirements of the city's newly adopted Landscape Design Standards and Guidelines manual. The project achieves valuable water conservation through the use of water-efficient landscaping. The landscape plans provide for a variety of landscape species (including drought-tolerant turf) in varying sizes to accommodate the project. The landscape plans were reviewed by the City's Landscape Architect and based on this review; the conceptual landscape plans are consistent with City standards. During the construction plan check process, staff will perform a more detailed landscape and irrigation plan review to determine that the proposed water usage meets the Landscape Design Standards and Guidelines manual. The proposed landscape plan is shown on Pdf pages 8-12 of Attachment E.

Commercial Retail Architecture:

The architectural theme for the commercial retail center site is characterized as "Farm Chic" which is one of the four design themes allowed on the city's Commercial Design Standards and Guidelines. Farm Chic is a contemporary interpretation of traditional rural forms adapted to a commercial setting. This style reflects Wildomar's agricultural and ranching history and regional context. As indicated in the accompanying precedent images and illustrative diagram, the style utilizes elements of recognizable farm and ranch forms such as barns, sheds, silos, tank houses, and granary towers. Common materials such as metal, wood, and stone are utilized. Board and batten siding and corrugated metal panels are used to give texture and variation to exterior walls. Roofs are typically medium to high-pitched. Large openings are patterned after the functional design of typical agricultural buildings. The proposed architecture is a high-quality design.

The discussion for the Commercial Plot Plan is provided in the Analysis section of this staff report and the Findings are provided in PC Resolution No. 2022-28 (Attachment C). Staff has provided exhibits of the architectural elevations for Commission consideration (refer to Attachment G).

Multi-Family Residential Apartment Site Plan Layout:

In accordance with Section 17.216 of the Wildomar Municipal Code, the Wildomar Crossroads mixed-use project requires approval of a plot plan (i.e., final site plan of development plot plan). The Applicant has proposed to develop the 4.5-acre residential site with a 150-unit apartment community. Since the apartment site has the 2013 Housing Element "Mixed-Use overlay (MU)" zoning, the required density to meet our RHNA numbers for this site is at least 30 units/acre. The applicant has proposed a density of 33.5 units/acre consistent with the

overlay zoning. The site also includes a 3,700-square-foot recreation building and community pool and recreation area for the residents. Entries into the apartment community will occur from Wildomar Trail and Catt Road (refer to site plan).

The proposed apartment project is subject to the development standards of the R-3 multi-family zone (Chapter 17.44.020 of the WMC). This section establishes standards and requirements related to lot area, setbacks, building height, etc. The apartment project is consistent with the R-3 zone development standards. Refer to Attachment I for the R-3 Zone (17.44.020) Development Standards Table. A full set of the development plans and architectural elevations for the apartment community is provided for Commission consideration in Attachment E - H.

Off-Street Parking (Section 17.188):

The apartment community site is subject to the multi-family parking requirements outlined in Chapter 17.188.030 of the WMC. Based on the number of units at 150 and bedroom types (Studio, 1 and 2-bedrooms), the project is required to provide a minimum of 282 parking spaces. The site plan shows 282 parking spaces distributed between attached garage spaces and open/visitor spaces. Refer to Attachment I for the Multi-family Residential Parking Standards Table. A full set of the development plans for the apartment community is provided for Commission consideration in Attachment E - H.

Proposed Unit Type / Floor Plans:

The 150-unit apartment community will be comprised of five (5), 3-story buildings with 25 – 33 units per building with a combination studio, and one and two-bedroom units. The floor plan layout of each unit will be a “stacked-flat” design with some tucked under attached garages on the first floor. There are 12, Studio units, 81, 1-bedroom units, and 57, 2-bedroom units distributed throughout the site. The units range in size from 580 to 1,115 square feet in size with an overall average of 826 square feet. Refer to Attachment I for the Unit Breakdown and Size Table. A full set of the development plans for the apartment community is provided for Commission consideration in Attachment E - H.

Proposed Architecture:

The architectural design of the apartment community is consistent with the City’s multi-family objective design standards and guidelines. Of the four (4) design themes approved by the Commission and Council, the Applicant has chosen to use the “Farm Chic” style which is compatible with the design of the commercial retail development. Our design standards and guidelines provide general criteria for architecture and landscaping in order to ensure a high-quality development and strong community character. The overall goal is to create a unique, community within the context of the mixed-use project. Farm Chic is a contemporary interpretation of traditional rural forms. This contemporary interpretation of residential architectural styles was popular in the late 19th and early 20th centuries, and the Farm Chic style is often found in coastal communities. This style reflects Wildomar’s residential

character and Southern California context. As indicated on the following pages, recognizable elements include the use of wood siding, often painted white, with contrasting awnings and trim treatments. Flat or low-pitched roofs are typical. High interior visibility is achieved through the use of large windows and glass doors. Board and batten siding adds texture and depth to exterior facades. The architectural design and theme for the apartments are consistent with the City's multi-family design standards and guidelines design. A full set of the development plans for illustrating the design for the apartments for Commission consideration is in Attachment H.

Landscaping/Water Efficient Standards (Chapter 17.276):

The Applicant has provided a detailed conceptual landscape plan for staff's review. The purpose of Chapter 17.276 of the Zoning Ordinance is to establish water-efficient landscape regulations that are "at least as effective in conserving water as" the State Model Water Efficient Landscape Ordinance in the context of conditions in the City in order to ensure that landscapes are planned, designed, installed, maintained, and managed in a manner that uses water efficiently, encourages water conservation, and prevents water waste. The intent of this chapter is to also encourage cooperation between the City and local water purveyors to achieve irrigation efficiency and water conservation goals.

The landscape plans provide for a variety of landscape species (including drought-tolerant turf) in varying sizes to accommodate the project. The landscape plans were reviewed by the City's Landscape Architect in accordance with the provisions of this code section. Based on this review, the conceptual landscape plans are consistent with City standards. During the construction plan check process, staff will perform a detailed landscape and irrigation plan review to determine that the proposed water usage meets the requirements of Chapter 17.276. Based on the conceptual landscape plans, the project is consistent with city standards. The discussion of the Multi-Family Residential Plot Plan is provided in the Analysis section of this staff report and the Findings are provided in PC Resolution No. 2022-28 (Attachment C). Staff has provided exhibits of the landscape plans for Commission consideration (Attachment F).

PROJECT ANALYSIS:

CEQA/MND Analysis:

The proposed Wildomar Crossroads project is considered a "project" as defined by the California Environmental Quality Act, Public Resources Code § 21000 et seq. ("CEQA"). Thus, in accordance with Public Resources Code §§ 21000 – 21189.3, and the CEQA Guidelines, 14 CCR §§ 15000-15387, in the course of the preliminary review of the proposed project, the Planning Director determined that there was substantial evidence that the Wildomar Crossroads project may have one or more significant effects on the environment. Therefore, in accordance with Section 15070 of the California Environmental Quality Act (CEQA) Guidelines, the proposed project requires the preparation, review, and adoption of a Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program (MMRP) (SCH# 2022080339). The Planning Commission has the authority to adopt the MND/MMRP which staff is recommending they do. The required MND findings are discussed

and outlined in PC Resolution No. 2022-26. A copy of the MND package is provided for Commission consideration in Attachment A, Exhibits 1 -4 (under separate cover).

SB 18/AB 52 Tribal Consultation Compliance:

Enacted as of July 1, 2015, AB 52 established a new category of resources under CEQA called "tribal cultural resources" that considers the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigations. The bill was built on the concept that California Native American tribes have the expertise "with regard to tribal history and practices" to identify significant cultural resources. To this end, AB 52 requires early consultation in the CEQA process to ensure that local and Tribal governments, public agencies, and project proponents have information available, early in the CEQA environmental review process, for the purpose of identifying and addressing potential adverse impacts on tribal cultural resources. Since the project includes a general plan amendment, early consultation under this bill is also required. Both can be accomplished simultaneously.

The planning department contacted (in writing) all culturally affiliated tribes that could be affected by a project within 14 days of deeming a development application complete. The notice commences a 30-day period for the tribe to request a consultation. The City has complied with notification requirements and has initiated consultation as required under AB 52 with both the Soboba and Pechanga Band of Luiseno Indians. Staff has met with both tribes, and a series of standard mitigation measures intended to protect tribal cultural resources were agreed to. These have been placed into the MND mitigation measures (MMRP) as well as the conditions of approval matrix. As a result, consultation has been completed.

MND Preparation:

Upon completion of the draft Initial Study/Mitigated Negative Declaration (IS/MND) and in accordance with CEQA Guidelines Section 15072, the Planning Department on August 17, 2022, provided a Notice of Intent (NOI) to the State Clearinghouse, Riverside County Clerk, Press Enterprise, a local newspaper of general circulation, and the City's local distribution list regarding the preparation and public review of the draft Initial Study/Mitigated Negative Declaration for the proposed project. Also, in accordance with CEQA Guidelines §15073 and §15105, and the City's Local CEQA Guidelines, the draft IS/MND was circulated and made available to the State Clearinghouse/OPR, the City's local distribution list, and other interested parties requesting a copy for a 30-day public review/comment period that commenced on August 17, 2022, and concluded on September 15, 2022. In addition, IS/MND was uploaded to the City's Environmental Documents Center webpage during the same 30-day public review period, and a hard copy was made available to the general public at the Planning Department.

During the 30-day public review period, the City received two (2) comment letters (Ken Mayes & RCFCD) on the MND. In accordance with CEQA guidelines, staff has prepared detailed responses to each comment letter which is provided in the final MND (Attachment A, Exhibit 3). In accordance with CEQA requirements, the final MND was mailed out to each commenter

10 days prior to the October 19, 2022, Planning Commission meeting. In accordance with CEQA Guidelines Section 15097, the Planning Department has also prepared a Mitigation Monitoring and Reporting Program (MMRP) for the Wildomar Crossroads project MND. The MMRP outlines the proposed mitigation measures for the project and the timing and department responsibility for implementing the mitigation measures. The mitigation measures have also been included with the project conditions of approval matrix.

Tentative Parcel Map 38333 Analysis:

The Applicant is requesting approval of a tentative Parcel map in accordance with Title 16.12 (Subdivisions) of the Wildomar Municipal Code. The proposed Tentative Parcel Map No. 38333 is a request to subdivide the 9.05-acre site into five (5) lots to accommodate the development of the mixed-use project. Based on the C-P-S zoning for the property, there is no minimum lot size; however, the apartment site must have a minimum lot size of 7,200 square feet. Based on staff's review of the Tentative Parcel No. 38333, all lots meet and exceed the minimum lot size requirements. Refer to the table below for details.

TPM No. 38333 Summary Table

Lot/Parcel Number	Minimum Lot Size Requirement	Proposed Parcel Size	Meets Code Standards
1	No Minimum Size	0.482 acres	Yes
2	No Minimum Size	2.346 acres	Yes
3	No Minimum Size	0.767 acres	Yes
4	No Minimum Size	0.977 acres	Yes
5	7,200 square feet	4.482 acres	Yes

The Planning Commission has the authority to approve Tentative Parcel Map No. 38333, subject to conditions, for the proposed Wildomar Crossroads project. The findings to support the approval of the parcel map are discussed and outlined in PC Resolution No. 2022-27 (Attachment B). The parcel map conditions matrix is provided in Exhibit 1 of Attachment B.

Conditional Use Permit 21-0145 Analysis:

The Applicant is proposing to establish alcohol sales for the proposed Sprouts Farmers Market grocery store. In accordance with Section 17.248 of the Wildomar Municipal Code, this requires approval of a Conditional Use Permit (CUP). Based on staff's review, the CUP can be supported based on the findings. The proposal to have alcohol sales for off-site consumption as part of the Sprouts Farmers Market store is consistent with the General Plan land use designation of MUPA and C-P-S zoning in that it is a conditionally permitted use in the C-P-S (Scenic Highway Commercial) zone in accordance with Chapter 17.248.020.A of the Zoning Ordinance. The sale of alcohol is typically associated with grocery stores in the C-

P-S zone and other similar commercial zones in the City. Further, the sale of alcohol will be restricted to "off-premise" consumption only (i.e., no on-site consumption) in accordance with the requirements of a Type 20 ABC license which will be regulated by the State Alcohol Beverage Control (ABC). The Planning Commission has the authority to approve CUP No. 21-0145, subject to conditions, for the proposed Sprouts Farmers Market grocery store. The findings to support approval of the CUP are provided in PC Resolution No. 2022-28 (Attachment C).

Plot Plan 21-0145 Analysis (Commercial Retail Center):

As noted, the proposed commercial/retail development requires approval of a plot plan to develop the 34,450 square-foot Wildomar Crossroads retail center. The Applicant intends to build the Sprouts grocery store first followed by the remainder of the buildings and restaurants. Based on staff's analysis of the project, the development of the commercial/retail center complies with all the development standards of the C-P-S zone related to setbacks, building height, landscaping, parking, etc. (refer to Project Description above and Attachment I). In addition, the development standards of Chapter 17.188 (Parking) were reviewed in detail and the project is in compliance with these provisions. In terms of architecture, the project is consistent with the "Farm Chic" design theme outlined in the City's commercial design standards and guidelines book (refer to Project Description above for details). A copy of the full development plans and the architectural plan is provided for Commission consideration in Attachment E - I.

The project as proposed and conditioned is also consistent with the General Plan. Further, all environmental impacts created by the project have been mitigated to a level of non-significance, and each mitigation measure has been incorporated into the project conditions and mitigation monitoring and reporting program. Based on these facts, staff supports the proposed plot plan. The Planning Commission has the authority to approve Plot Plan No. 21-0145, subject to conditions, for the proposed Wildomar Crossroads retail center project. The findings to support the approval of the Plot Plan are provided in PC Resolution No. 2022-28 (Attachment C). The plot plan conditions matrix is provided in Exhibit 1 of Attachment C.

Plot Plan No. 21-0145 Analysis (Multi-Family Apartments):

In accordance with Chapters 17.44 and 17.305, the proposed 150-unit apartment community requires approval of a Plot Plan by the Commission. The apartment community development plans and architecture is designed to be in compliance with the city's Multi-family Objective Residential Design Standards (refer to the project description discuss for specific details). The plot plan for the apartment site layout was reviewed and analyzed in detail as part of the city's development review process to ensure that the R-3 development standards related to setbacks, building height, landscaping, parking, circulation, open space, etc. were complied with. In addition, the development standards of Chapter 17.188 (Parking) were reviewed in

detail and the project is in compliance with these provisions (refer to the project description discuss for specific details).

In terms of the proposed density, the project is consistent with the MUPA land use designation and MU overlay zone provision as this land use is intended to accommodate a variety of mixed-uses including attached and detached multi-family dwelling units. The residential site area does not require any special zoning since the MUPA land use designation allows multi-family uses. Further, the density of the apartment community at 33 units/acre is consistent with the Mixed-Use Overlay (MU) zoning that requires multi-family development of at least 30 units/acre. The overlay was applied to this site when the City Council adopted the 2013 Housing Element (in December 2013). The proposed residential project also promotes a number of land use and housing policies, including consistency with the City's RHNA numbers described in the Plot Plan resolution.

Further, all environmental impacts created by the project have been mitigated to a level of non-significance, and each mitigation measure has been incorporated into the project conditions. The Planning Commission has the authority to approve Plot Plan No. 21-0145, subject to conditions, for the proposed multi-family residential project. The findings for the Plot Plan are provided in PC Resolution No. 2022-28 (Attachment C). The plot plan conditions matrix is provided in Exhibit 1 of Attachment C.

ATTACHMENTS:

A. PC Resolution No. 2022-26 – MND Resolution
   Exhibit 1 - Wildomar Crossroads MND (SCH# 2022080339) (attached under separate cover)
   Exhibit 2 - MND Technical Appendices (attached under separate cover)
   Exhibit 3 - Final MND / City Response to Comments (attached under separate cover)
   Exhibit 4 - Mitigation Monitoring & Reporting Program (MMRP) (attached under separate cover)
B. PC Resolution No. 2022-27 – TPM No. 38333 Resolution
   Exhibit 1 - Conditions of Approval Matrix
C. PC Resolution No. 2022-28 – CUP/Plot Plan Resolution
   Exhibit 1 - Conditions of Approval Matrix
D. Parcel Map 38333 Exhibit
E. Wildomar Crossroads Development Plans-Complete
F. Wildomar Crossroads Commercial Retail Architectural Plans
G. Wildomar Crossroads Multi-Family Architectural Plans
H. Wildomar Crossroads Site Plan-Grading-Land Plan Set
I. Development Standards Tables
J. Vicinity Maps/Exhibits

INCORPORATED HEREIN BY REFERENCE ARE THE FOLLOWING:

- City of Wildomar General Plan and General Plan EIR
- City of Wildomar Subdivision Ordinance (Title 16, Subdivisions)
- City of Wildomar Zoning Ordinance (Title 17, Zoning)

ATTACHMENTS:

Attach A - PC Resolution 2022-26-MND.pdf
Attach A-Ex1-IS-MND Document.pdf
Attach A-Ex2-Append 1a-Comm Dev Plans.pdf
Attach A-Ex2-Append 1b-Res Dev Plans.pdf
Attach A-Ex2-Append 1c-TPM-Site-Grading.pdf
Attach A-Ex2-Append 2-Air QualityAnalysis.pdf
Attach A-Ex2-Append 3-MSHCP Analysis.pdf
Attach A-Ex2-Append 4-Burrowing_Owl_Surveys.pdf
Attach A-Ex2-Append 5-Cultural Resources.pdf
Attach A-Ex2-Append 6-Focused_Cultural_Survey.pdf
Attach A-Ex2-Append 7-Energy_Tables.pdf
Attach A-Ex2-Append 8-Preliminary_Geotechnical.pdf
Attach A-Ex2-Append 9-Paleontological_Survey.pdf
Attach A-Ex2-Append 10-Greenhouse_Gas.pdf
Attach A-Ex2-Append 11-Phase 1 ESA.PDF
Attach A-Ex2-Append 12-Prelim WQMP.pdf
Attach A-Ex2-Append 13-Prelim Hydrology.pdf
Attach A-Ex2-Append 14-Parking_Demand_Analysis.pdf
Attach A-Ex2-Append 15-Noise_Impact_Analysis.pdf
Attach A-Ex2-Append 16-Traffic Impact Analysis.pdf
Attach A-Ex3- Response to Comments Doc.pdf
Attach A-Ex4-Mitigation Monitoring Report.pdf
Attach B - PC Resolution 2022-27-TPM.pdf
Attach C - PC Resolution 2022-28 -CUP-PP.pdf
Attach D - Parcel Map 38333 Exhibit.pdf
Attach E - 21-0145 Development Plans-Full Set.pdf
Attach F - 21-0145 Site Plan-Grading-Land Plan Set.pdf
Attach G - 21-0145 Comm Retail Arch Plans.pdf
Attach H - 21-0145 Apartment Arch Plans.pdf
Attach I - Development Standards Tables.pdf
Attach J - Vicinity Maps.pdf
Attach K - Colored Rendering-Exhibits.pdf

ATTACHMENT A

PC Resolution No. 2022-26
for
Initial Study/Mitigated Negative Declaration

PC RESOLUTION NO. 2022-26

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, ADOPTING A MITIGATED NEGATIVE DECLARATION/MITIGATION MONITORING AND REPORTING PROGRAM (SCH# 2022080339) FOR TENTATIVE PARCEL MAP NO. 3833, CONDITIONAL USE PERMIT NO. 21-0145, AND PLOT PLAN NO. 21-0145 LOCATED AT THE NORTHWEST CORNER OF WILDOMAR TRAIL AND CLINTON KEITH ROAD (APN: 376-410-015, -016, -017, & -021)

WHEREAS, the Planning Department has received a development application for the Wildomar Crossroads Mixed-Use Project consisting of an Initial Study/Mitigated Negative Declaration (MND), Tentative Parcel Map No. 38333, Conditional Use Permit No. 21-0145, and Plot Plan No. 21-0145 to develop a 34,540 square-foot multi-tenant retail center and 150-unit gated apartment project on a 9.05-acre site from:

Project Applicant:	Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc.
Project Location:	Northwest corner of Wildomar Trail and Clinton Keith Road
APN:	APN: 376-410-015, -016, -017, & -021
Project Area:	9.05+/- acres

WHEREAS, the proposed Wildomar Crossroads Mixed-Use project consists of the following applications for review and consideration by the Planning Commission and City Council:

1) Mitigated Negative Declaration (IS/MND) - The proposed project requires the preparation, review and adoption of a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program (SCH# 2022080339) in accordance with Section 15070 of the California Environmental Quality Act (CEQA) Guidelines.

2) Tentative Parcel Map No. 38333 - The project requires the subdivision of the 9.05-acre site into five (5) parcels in accordance with Title 16.12 (Subdivisions) of the Wildomar Municipal Code (WMC), to accommodate Wildomar Crossroads Mixed-Use Project consisting of a 34,540 square-foot multi-tenant retail center and a 150-unit gated apartment project; and

3) Conditional Use Permit (CUP) No. 21-0145 - The project requires approval of a CUP to establish alcohol sales for off-site consumption for the proposed Sprouts Farmers Market grocery store building in accordance with Section 17.248 of the WMC; and

4) Plot Plan No. 21-0145 - The project requires approval of a Plot Plan (for the commercial and residential portions of the project) to develop the 9.05-acre site with the 34,540 square-foot multi-tenant retail center (Parcels 1 - 4) and the 150-unit gated multi-family apartment project (Parcel 5) consistent with the city's commercial and multi-family design standards and guidelines, including full on-site and off-site improvements per the WMC.

WHEREAS, in accordance with the City's Local CEQA Guidelines, the Planning Commission has the authority to take action on the Initial Study/Mitigated Negative Declaration for the Wildomar Crossroads Mixed-Use project; and

WHEREAS, the proposed Wildomar Crossroads Mixed-Use project is considered a "project" as defined by the California Environmental Quality Act, Public Resources Code § 21000 et seq. ("CEQA"); and

WHEREAS, the Planning Director determined that there was substantial evidence that the Wildomar Crossroads Mixed-Use project may have one or more significant effects on the environment and that preparation of an Initial Study/Mitigated Negative Declaration ("MND") was therefore warranted under Public Resources Code § 21080(c); and,

WHEREAS, the Wildomar Crossroads Mixed-Use project IS/MND consists of the following documents as Exhibits to this Resolution:

- Exhibit 1 - Mitigated Negative Declaration Document (SCH# 2022080339 - under separate cover);
- Exhibit 2 - IS/MND Technical Appendices (under separate cover).
- Exhibit 3 – IS/MND City Response to Comments
- Exhibit 4 – IS/MND Mitigation Monitoring and Reporting Program (MMRP).

WHEREAS, in accordance with CEQA Guidelines Section 15072, the Planning Department on August 17, 2022 provided a Notice of Intent (NOI) to the State Clearinghouse, Riverside County Clerk, Press Enterprise, a local newspaper of general circulation, and the City's local distribution list regarding the release of the draft Initial Study/Mitigated Negative Declaration for the proposed Wildomar Crossroads Mixed-Use project; and

WHEREAS, in accordance with CEQA Guidelines §15073 and §15105, the draft Initial Study/Mitigated Negative Declaration was circulated and made available to the State Clearinghouse/OPR, the City's local distribution list, and other interested parties for a 30-day public review/comment period that commenced on August 17, 2022 and concluded on September 15, 2022; and

WHEREAS, in accordance with the City's Local CEQA Guidelines, the draft Initial Study/Mitigated Negative Declaration was posted at Wildomar Planning Department and online at the City's Environmental Documents Center website for a 30-day public review/comment period that commenced on August 17, 2022 and concluded on September 15, 2022; and

WHEREAS, during the 30-day public review period, the City received one (1) public comment (Riverside County Flood Control District) on the draft Initial Study/Mitigated Negative Declaration, thus, warranting preparation of a Response to Comments document for the proposed Wildomar Crossroads Mixed-Use project; and

WHEREAS, the Planning Department, on October 4, 2022 gave public notice to all property owners within a 600-foot radius of the project boundary notifying said property owners of the October 19, 2022 Planning Commission meeting at which time the Planning Commission would consider the Wildomar Crossroads Mixed-Use project IS/MND; and

WHEREAS, In accordance with Ordinance No. 135, the Planning Department on October 7, 2022 posted two (2) public hearing notice "sign boards" on Wildomar Trail and Clinton Keith Road notifying the general public of the October 19, 2022 Planning Commission meeting at which time the Planning Commission would consider the Wildomar Crossroads Mixed-Use project IS/MND; and

WHEREAS, the Planning Department, on October 7, 2022 published a legal notice in the "Press Enterprise," a local newspaper of general circulation, notifying the general public of the October 19, 2022 Planning Commission meeting at which time the Planning Commission would consider the Wildomar Crossroads Mixed-Use project IS/MND; and

WHEREAS, the Planning Commission conducted the duly noticed public hearing on October 19, 2022, at which time interested persons had an opportunity to testify in support of, or opposition to, the proposed Wildomar Crossroads Mixed-Use project IS/MND, and at which time the Planning Commission received public testimony concerning the IS/MND.

NOW THEREFORE, the Planning Commission of the City of Wildomar, does hereby resolve, determine and order as follows:

SECTION 1 CEQA FINDINGS.

The Planning Commission, in light of the whole record before it, including but not limited to, the draft IS/MND, Technical Appendices, Response to Comments and Mitigation Monitoring and Reporting Program (Exhibits 1 - 4) and all documents incorporated by reference therein, any comments received and responses provided, and other substantial evidence (within the meaning of Public Resources Code § 21080(e) and § 21082.2) within the record and/or provided at the public hearing, finds and determines as follows:

A. Review Period: That the City has provided a 30-day public review period which commenced on August 17, 2022 and concluded on September 15, 2022 for the draft Initial Study/Mitigated Negative Declaration as required by CEQA Guidelines §15073 and §15105.

B. Compliance with Law: That the draft Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program were prepared, processed, and noticed in accordance with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (14 California Code of Regulations Section 15000 et seq.).

C. Independent Judgment: That the draft Initial Study/Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program reflect the independent judgment and analysis of the City.

D. Mitigation Monitoring and Reporting Program: That the Mitigation Monitoring and Reporting Program is designed to ensure compliance during project implementation in that changes to the project and/or mitigation measures have been incorporated into the project and are fully enforceable through permit conditions, agreements, or other measures as required by Public Resources Code Section 21081.6.

E. No Significant Effect: That revisions made to the project as agreed to by the applicant, and mitigation measures imposed as conditions of approval on the project, avoid or mitigate any potential significant effects on the environment identified in the Initial Study to a point below the threshold of significance. Furthermore, after taking into consideration the revisions to the project and the mitigation measures imposed, the Planning Commission finds that there is no substantial evidence, in light of the whole record, from which it could be fairly argued that the project may have a significant effect on the environment. Therefore, the Planning Commission concludes that the project will not have a significant effect on the environment with the proposed mitigation measures and Mitigation Monitoring and Reporting Program.

SECTION 2. MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP)

The Planning Commission finds that the Wildomar Crossroads Mixed-Use project is consistent with the MSHCP, and the project is not located in any MSHCP criteria cell area, and required mitigation is provided through payment of the MSHCP Mitigation Fee.

SECTION 3. PLANNING COMMISSION ACTION.

Based on the foregoing findings, and on substantial evidence in the whole of the record, the Planning Commission hereby recommends that the City Council take the following actions:

1. Adoption of a Mitigated Negative Declaration/MMRP:
   The Planning Commission hereby recommends the City Council adopt the Initial Study/Mitigated Negative Declaration (with technical appendices) and Mitigation Monitoring and Reporting Program for the Wildomar Crossroads Mixed-Use project attached hereto this Resolution as Attachment A, Exhibits 1 - 4.

2. Filing a Notice of Determination:
   In compliance with Public Resources Code Section 21152 and CEQA Guidelines Section 15075, the Planning Commission hereby directs the Planning Director to file a Notice of Determination (NOD) with the Riverside County Clerk and State Clearinghouse for posting within five (5) working days of Planning Commission approval of the Wildomar Crossroads Mixed-Use project and adoption of the Mitigated Negative Declaration & Mitigation Monitoring and Reporting Program.

3. Location:
   The Planning Commission hereby recommends the City Council keep on file the Initial Study/Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program for the Wildomar Crossroads Mixed-Use project, and all documents incorporated therein or forming the record of decision therefore, with the Wildomar Planning Department at City Hall, located 23873 Clinton Keith Road, Suite 201, Wildomar, CA 92595 and shall be made available for public review upon request in accordance with state law.

PASSED, APPROVED AND ADOPTED this 19th day of October, 2022 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAINED:

_____
John Lloyd
Planning Commission Chair

ATTEST:

_____
Matthew C. Bassi
Planning Director/Minutes Secretary

APPROVED AS TO FORM:

_____
Stephanie Gutierrez
Assistant City Attorney

EXHIBIT 1

Wildomar Crossroads Mixed-Use Project IS/MND

(Under Separate Cover)

EXHIBIT 2

Wildomar Crossroads Mixed-Use Project Technical Appendices
(Under Separate Cover)

- Attach A-Ex2-Append 1a-Comm Dev Plans
- Attach A-Ex2-Append 1b-Res Dev Plans
- Attach A-Ex2-Append 1c-TPM-Site-Grading
- Attach A-Ex2-Append 2-Air QualityAnalysis
- Attach A-Ex2-Append 3-MSHCP Analysis
- Attach A-Ex2-Append 4-Burrowing_Owl_Surveys
- Attach A-Ex2-Append 5-Cultural Resources
- Attach A-Ex2-Append 6-Focused_Cultural_Survey
- Attach A-Ex2-Append 7-Energy_Tables
- Attach A-Ex2-Append 8-Preliminary_Geotechnical
- Attach A-Ex2-Append 9-Paleontological_Survey
- Attach A-Ex2-Append 10-Greenhouse_Gas
- Attach A-Ex2-Append 11-Phase 1 ESA
- Attach A-Ex2-Append 12-Prelim WQMP
- Attach A-Ex2-Append 13-Prelim Hydrology
- Attach A-Ex2-Append 14-Parking_Demand_Analysis
- Attach A-Ex2-Append 15-Noise_Impact_Analysis
- Attach A-Ex2-Append 16-Traffic Impact Analysis

EXHIBIT 3

Wildomar Crossroads Mixed-Use Project
Response to Comments

(Under Separate Cover)

EXHIBIT 4

Wildomar Crossroads Mixed-Use Project

Mitigation Monitoring and Reporting Program (MMRP)



INITIAL STUDY &

MITIGATED NEGATIVE DECLARATION

Wildomar Crossroads Mixed-Use Project

(Planning Application No. 21-0145)

Lead Agency:

City of Wildomar
23873 Clinton Keith Road, Suite 201
Wildomar, CA 92595

Prepared by:

PlaceWorks
3 MacArthur Place Suite 1100

Santa Ana, CA 92707

August 2022

NOTICE OF AVAILABILITY FOR PUBLIC REVIEW OF AN INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE WILDOMAR CROSSROADS MIXED USE PROJECT

An Initial Study/Mitigated Negative Declaration (MND) has been prepared by the City of Wildomar for the proposed Wildomar Crossroads Mixed Use Project (PA No. 21-0145). The IS/MND and technical appendices will be available for public review/comment beginning on **Wednesday, August 17, 2022**. All files can be downloaded from the City of Wildomar Environmental Documents Center webpage at the following web address: http://www.cityofwildomar.org/cms/One.aspx?portalId=9894827&pageId=10911316.

The project site is located at the northwest intersection of Clinton Keith Road and Wildomar Trail on 24850-23980 Catt Road, and encompasses Assessor's Parcel Numbers 376-410-015, -016, -017, and -021. The proposed project would construct a 150-unit "gated" multi-family apartment community and a 3,728 square-foot club/fitness center. The project also proposes the construction of a 35,422 square-foot commercial retail center anchored by a Sprouts Grocery store, one multi-tenant retail building, two drive-through restaurants, and one drive-through coffee restaurant. Access to the residential portion of the site would be provided via two gated entrances/exits. Catt Road would be extended from Arya Road to function as a project driveway and one access point would be provided at the southwest corner of the site via this driveway. The other residential access point would be provided on the northeast corner of the project via Wildomar Trail and include an internal driving aisle that extends around the north and west perimeter of the project linking the two access points. The commercial portion would be accessible from three points along Wildomar Trail. The Catt Road driveway would extend into the commercial portion of the project as well, providing an additional entrance/exit. The project includes the following applications for consideration by the Wildomar Planning Commission:

- **CEQA/Mitigated Negative Declaration:** The Planning Department will act as the Lead Agency and has determined that the project will require preparation and approval of an MND in accordance with Section 15070 of CEQA.
- **Conditional Use Permit (CUP):** The proposed Sprouts Grocery store will require approval of a CUP to allow for alcohol sales in accordance with Section 17.248 of the WMC.
- **Tentative Parcel Map (TPM 38333):** The project will require approval of a Tentative Parcel Map to subdivide the 9-acre site into five (5) parcels to accommodate the 150-unit residential apartment community and 35,422 square-foot commercial retail center.
- **Plot Plan (PP):** The project will require approval of a commercial Plot Plan to develop the 4.53-acre commercial retail site with 35,422 square feet of retail and restaurant uses, including site planning, architecture, landscaping, parking, etc. and on-site and off-site improvements consistent with the city's commercial objective design standards and guidelines.
- **Final Site Plan of Development (FSPOD):** The project will require approval of a final site plan of development for the 4.48-acre site to develop the 150-unit apartment community (33.5 units/acre density, including site planning, architecture, landscaping, parking, etc. consistent with the city's multi-family objective residential design standards and guidelines.

The IS/MND identifies impacts that require mitigation in the following topic areas: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Noise, Transportation, Tribal Cultural Resources, and Wildfire. Significant and unavoidable impacts and cumulatively considerable impacts have not been identified in any of the environmental issue areas. The project is not located on any hazardous materials sites enumerated under Section 65962.5 of the California Government Code.

In accordance with Sections 15072(a) and (b) of the CEQA Guidelines, this public notice is posted to officially notify the public, public agencies, and responsible and trustee agencies that the required 30-day public review/comment period will commence on **Wednesday, August 17, 2022, and conclude on Thursday, September 15, 2022.** Any written comments (via email or letter) on the IS/MND must be submitted no later than 5 p.m. on September 15, 2022. Written comments may be mailed to Matthew C. Bassi, Planning Director, City of Wildomar Planning Department, 23873 Clinton Keith Road, Suite 201, Wildomar, CA 92595. Email comments can be sent to mbassi@cityofwildomar.org. The Planning Commission is tentatively scheduled to review the IS/MND and proposed development project at their regular meeting of October 19, 2022. **Published: August 17, 2022**

TABLE OF CONTENTS

I. INTRODUCTION AND PROJECT DESCRIPTION 1

II. EXISTING CONDITIONS 3

PROJECT SITE 3

PHYSICAL SETTING 3

III. PROJECT DESCRIPTION 4

IV. EXECUTIVE SUMMARY 5

V. ENVIRONMENTAL CHECKLIST FORM 29

A. BACKGROUND 29

B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED 31

C. DETERMINATION 32

D. ENVIRONMENTAL ANALYSIS 33

1. AESTHETICS 33

2. AGRICULTURE AND FORESTRY RESOURCES 36

3. AIR QUALITY 38

4. BIOLOGICAL RESOURCES 44

5. CULTURAL RESOURCES 48

6. ENERGY 51

7. GEOLOGY AND SOILS 54

8. GREENHOUSE GAS EMISSIONS 59

9. HAZARDS AND HAZARDOUS MATERIALS 69

10. HYDROLOGY AND WATER QUALITY 75

11. LAND USE AND PLANNING 80

12. MINERAL RESOURCES 82

13. NOISE 83

14. POPULATION AND HOUSING 93

15. PUBLIC SERVICES 95

16. RECREATION 98

17. TRANSPORTATION 99

18. TRIBAL CULTURAL RESOURCES 113

19. UTILITIES AND SERVICE SYSTEMS 120

20. WILDFIRE 125

VI. MANDATORY FINDINGS OF SIGNIFICANCE 128

VII. REFERENCES 136

Tables

Table ES-1 Project Impact and Mitigation Summary 6
Table 3-1 Project Construction Emissions Summary – Without Mitigation 40
Table 3-2 Summary of Peak Operational Emissions – Without Mitigation 40
Table 3-3 Project Localized Construction Emissions – Without Mitigation 41
Table 3-4 Project Localized Construction Emissions – With Mitigation 42
Table 8-1 Proposed Project GHG Emissions 59
Table 8-2 2017 Scoping Plan Consistency Summary 61
Table 13-1 Exterior Noise Levels (CNEL) 84
Table 13-2 Interior Noise Levels (CNEL) 85
Table 13-3 Sensitive Receptors 85
Table 13-4 Significance Criteria Summary 86
Table 13-5 Construction Noise Level Compliance 87
Table 13-7 Nighttime Project Stationary Source Noise Levels 89
Table 13-8 Daytime Project Stationary Source Noise Level Increases 89
Table 13-9 Nighttime Project Stationary Source Noise Level Increases 90
Table 13-10 Existing Project Traffic Noise Level Increases 90
Table 13-11 Cumulative Project Traffic Noise Level Increases 91
Table 17-1 Project Trip Generation Rates 99
Table 17-2 Project Trip Generation Summary 100
Table 17-3 Recommended Improvements for Traffic Impacts 106
Table 17-4 Project Queueing Impacts 107
Table 19-1 EVMWD Water Treatment Facilities 122

FIGURES

Figure 1 Regional Location 20
Figure 2 Local Vicinity 21
Figure 3 Aerial Photograph 22
Figure 4 Site Plan 23
Figure 5 Conceptual Residential Building Elevations 24
Figure 6 Sprouts Farmers Market Exterior Elevations 25

Figure 7 Shops 1 South Elevation and East Elevation 26
Figure 8 Pad 1 South Elevation and East Elevation 27
Figure 9 Pad 2 Northwest Elevation and Southwest Elevation 28

APPENDICES

1. **Appendix 1 –** Project Development Plans, Sage Investco. (June 23, 2022)
2. **Appendix 2 –** Wildomar Crossroads Mixed Use Project Air Quality Impact Analysis, Urban Crossroads (April 13, 2022)
3. **Appendix 3** – MSHCP Consistency Analysis for A 10.12-Acre Property Located in the City Of Wildomar, Riverside County, California, TERACOR (June 30, 2022)
4. **Appendix 4** – Step I Habitat Assessment, Step II, Part a Focused Burrow Survey and Part Focused Burrowing Owl Surveys, TERACOR (June 20, 2022)
5. **Appendix 5** – Cultural Resources Assessment for the Wildomar Trail Project, Brian F. Smith and Associates, Inc. (November 24, 2021).
6. **Appendix 6**– Focused Cultural Resources Survey – Historic Resources Assessment for the NWC Clinton Keith & Wildomar Trail Project, JM Research and Consulting (November 23, 2021)
7. **Appendix 7** – Wildomar Crossroads Energy Tables, Urban Crossroads (January 18, 2022)
8. **Appendix 8 –** Preliminary Geotechnical Exploration, Leighton and Associates, Inc. (March 30, 2022)
9. **Appendix9**– Paleontological Survey, Brian F. Smith and Associates, Inc. (November 24, 2022)
10. **Appendix 10** – Wildomar Crossroads Greenhouse Gas Emissions Analysis, Urban Crossroads (April 13, 2022)
11. **Appendix 11 –** Phase I Environmental Site Assessment, Leighton and Associates, Inc. (July 22, 2021)
12. **Appendix 12 –** Preliminary Project Specific Water Quality Management Plan (WQMP), DRC Engineering, Inc. (April 2, 2022)
13. **Appendix 13** – Preliminary Drainage Hydrology Report for Wildomar Crossings, DRC Engineering, Inc. (April 2, 2022)
14. **Appendix 14** – Parking Demand Analysis, EPD Solutions, Inc. (April 8, 2022)
15. **Appendix 15** – Wildomar Crossroads Noise Impact Analysis, Urban Crossroads (April 18, 2022)
16. **Appendix 16** – Wildomar Crossroads Traffic Impact Analysis, EPD Solutions, Inc. (August 10, 2022)

Note to Reader: To save natural resources, the appendices are contained on a CD-ROM/USB included with the printed copy of this Initial Study. The appendices are also available on the City's Environmental Documents Center webpage at the following web address: (http://www.cityofwildomar.org/cms/One.aspx?portalId=9894827&pageId=10911316).

The documents can also be viewed here**:**

City of Wildomar, Planning Department
23873 Clinton Keith Road, Suite 201
Wildomar, CA 92595
Hours: Monday–Thursday, 8 a.m. – 5 p.m. (closed Fridays)

This page intentionally left blank.

I. INTRODUCTION AND PROJECT DESCRIPTION

Project Summary

This project proposes the construction of a 150-unit gated multi-family apartment community and 35,422 square-foot commercial retail center on an approximately 9-acre site on the northwest intersection of Clinton Keith Road and Wildomar Trail at 24850-23980 Catt Road. The Assessor's Parcel Numbers (APN) for the project site are 376-410-015, -016, -017, and -021.

Purpose and Project Overview

This Initial Study evaluates the proposed project which is being processed through the following development applications:

- **Conditional Use Permit (CUP):** The proposed Sprouts Grocery store will require approval of a CUP to allow for alcohol sales in accordance with Section 17.248 of the WMC.
- **Tentative Parcel Map (TPM 38333)**: The project will require approval of a Tentative Parcel Map to subdivide the 9-acre site into five (5) parcels to accommodate the 150-unit residential apartment community and 35,422 square-foot commercial retail center.
- **Plot Plan (PP):** The project will require approval of a commercial Plot Plan to develop the 4.53-acre commercial retail site with 35,422 square feet of retail and restaurant uses, including site planning, architecture, landscaping, parking, etc. and on-site and off-site improvements consistent with the city's commercial objective design standards and guidelines.
- **Final Site Plan of Development (FSPOD):** The project will require approval of a final site plan of development for the 4.48-acre site to develop the 150-unit apartment community (33.5 units/acre density), including site planning, architecture, landscaping, parking, etc. consistent with the city's multi-family objective residential design standards and guidelines.

The purpose of this Initial Study is to evaluate the potential environmental effects associated with the construction and occupancy of the planned development project and to provide mitigation where necessary to avoid, minimize, or lessen environmental effects.

Proposed Conditions of Approval

In addition to the proposed project, the City is likely to require several conditions of approval that may also have physical environmental impacts.

Off-Site Mobility Improvements

The proposed project will have a condition of approval that would improve a portion of the north side of Clinton Keith Road between the intersection with Wildomar Trail and Arya Road. The improvement will move the existing curb and gutter north to allow buildout of a third lane. A portion of the third lane already exists and the movement of the curb is needed to ensure that the existing bike lane can remain. The improvement is part of the City's Capital Improvement Program CIP 025 Clinton Keith Widening and the impacts were addressed in an IS/MND adopted by Riverside County (SCH# 200910103). The proposed project would only be responsible for the improvements if it is constructed before the City on the project.

The City will also require the project to construct or pay for its fair-share to implement the following improvements at four intersections that would experience unsatisfactory Level of Service and/or queuing impacts:

- **Intersection of Wildomar Trail and Clinton Keith Road:** Construct improvements as per the approved Capital Improvement Project at this intersection. Improvements include the addition of westbound through receiving lane at project frontage and the modification of westbound right lane to westbound through right lane. Signal modifications include changing southbound left lane and northbound left lane signal permissive phasing to protected permissive and overlapping southbound right lane. In the event the CIP improvements are constructed before the project is constructed, the project would contribute fair-share to improvements at this intersection.
- **Intersection of Inland Valley Drive and Clinton Keith Road:** Project would contribute fair-share to the CIP at this intersection which improves the intersection to a 4-lane intersection. Improvements include addition of westbound through lane and eastbound through lane receiving lane.
- **Intersection of Palomar Road and Clinton Keith Road:** Project would contribute fair-share to intersection improvements as per approved CIP at this intersection. Improvements as per CIP include addition of 2nd eastbound left lane, modification of eastbound right lane to eastbound through right lane. Modification of westbound through lane to westbound through right lane. Modification on northbound through right lane to northbound through lane, addition of northbound right lane and addition of 2nd southbound left lane. The project's fair-share contributions would be limited to the 2nd southbound left lane improvement on Clinton Keith Road which would include widening the road to shift the southbound right lane further northwest.
- **Intersection of Arya Road and Clinton Keith Road:** Construct improvements or provide fair-share as per approved Westpark Promenade Conditions of Approval. Improvements include northbound striping to provide dedicated northbound left lane and northbound through right lane, dedicated southbound left lane and southbound through right lane. Recommended signal modifications include changing northbound-southbound permissive phasing to protective permissive phasing. Project would construct improvements in the event that its construction commences before the construction of the adjacent Westpark Promenade project; otherwise, project would contribute fair-share for all improvements to this intersection as stated in Section 7.2. Improvements in the Traffic Impact Analysis (Appendix 16) would include widening of Arya Road to 4 lanes.
- The project would be required to contribute to the City's ITS program to mitigate queuing impacts at the impacted intersections shown in **Table 17-4** in Section V.17, Transportation.
- For intersections within the City of Murrieta (Nutmeg St/Clinton Keith Rd and California Oaks Rd/Clinton Keith Rd) the project will contribute payment to City of Murrieta CIP #8283 (Traffic Striping Modifications – Citywide). CIP #8283 is an ongoing program for removal and restriping to modify traffic control in accordance with changing traffic demands citywide and the applicant would work with the City to address queuing in the City of Murrieta with striping improvements.

II. EXISTING CONDITIONS

Project Site

Project Location

The project site is in the southeast portion of the City of Wildomar, California at 24850-23980 Catt Road, at the northwest intersection of Clinton Keith Road and Wildomar Trail. It covers approximately 9 acres and is comprised of Assessor's Parcel Numbers (APNs) 376-410-015, -016, -017, and -021. Regional and local vicinity maps of the project are shown in **Figure 1**, Regional Location, and **Figure 2**, Local Vicinity. An aerial photograph of the site is shown in **Figure 3**, Aerial Photograph.

Surrounding Area

The project site is surrounded by commercial uses to the south and east, residential uses to the west, and a vacant, gated lot to the north. Surrounding roadways that provide access to the site include Clinton Keith Road, Catt Road, and Wildomar Trail.

To the east of the project site across Wildomar Trail sits the Clinton Keith Village commercial development and south of the site following W Freedom Ave is the Freedom Business Park. These sites are zoned C-P-S (Scenic Highway Commercial). North of the site is a gated, sunken area marked as the Hartford Park Sensitive Habitat Area followed by single family residential units across Depasquale Road and single-family homes also directly border the western portion of the site. Both subdivisions are zoned R-1 (One-Family Dwellings).

Access

Regional access to the project site is provided by Interstate 15 (I-15) located approximately 0.2-mile southwest. In addition, local access to the site is provided by Catt Road, via Clinton Keith Road and Arya Road south of the site as well as Wildomar Trail to the east.

Physical Setting

The western portion of the lot contains a single-family home with an attached garage, an unoccupied structure north of the residence, and a vacant metal shed north of the structure. The site also contains a concrete foundation east of the other structures and additional remnant building debris and concrete in various places across the site. The remainder of the site is vacant with ruderal vegetation and several pine trees. Additionally, the site contains two groundwater wells one of which appears to be currently operating and servicing the single-family home. The second well is in the east-central portion of the site and does not appear to be in use. The site generally slopes southwest and small former tributary of Murietta Creek cuts into the northeastern portion of the site. The project site's existing conditions are shown in **Figure 3** Aerial Photograph.

Conservation

The proposed project site is not within a Western Riverside County Multiple Species Habitat Conservation Plan Criteria Cell (Riverside County 2022).

Natural Hazards

The project site is located approximately 0.63- mile northeast of the closest Alquist-Priolo Earthquake Fault Zone (Leighton 2022). However, most of the site falls within a mapped Riverside County Fault Hazard Zone (Leighton 2022). The project site is also located within a Very High Fire Hazard Severity Zone (VHFHSZ) (CALFIRE 2009). (See Executive Summary, below).

Regulatory Setting

The City of Wildomar General Plan designates this site as a Mixed-Use Planning Area (MUPA) with a zoning designation of Scenic Highway Commercial and a Mixed Use Overlay zone. The intent of the Mixed-Use Overlay District is to implement the MUPA designation by allowing and encouraging commercial and professional office uses to be located with multifamily residential development. The proposed plan would require the approval of a Conditional Use Permit, Tentative Parcel Map No. 38333, Plot Plan, and Final Site Plan of Development.

III. PROJECT DESCRIPTION

The proposed project would consist of demolishing the existing single-family home, garage, and outbuildings, abandonment of the two wells, and constructing a new mixed-use development including an apartment complex and commercial shopping center, as shown in **Figure 4**, Site Plan. The proposed project would be constructed in a single phase with an opening year of 2024. The duration of construction activities associated with the project is estimated to be approximately 14 months.

The proposed residential portion will be a gated community consisting of 150 units that cover 4.48 acres on the western side of the site. As shown in **Figure 5**, Conceptual Residential Building Elevations, the exterior of the proposed residential buildings would be painted sand-finished stucco with board and batten siding, off-white vinyl windows, and dark gray asphalt roof tiles. The tallest portion of the proposed residential buildings is 39 feet and 9 inches tall.

The commercial shopping center portion of the proposed project would cover approximately 4.53 acres on the eastern portion of the site and contain a market, shops, and restaurants. This development would include a 23,104 square-foot Sprouts Farmers Market and a 5,087 square-foot attached building intended for shops and restaurants on the northern end of the site, shown as “Major A” and “Shops 1” in **Figure 4**. Two pads on the southern end of the commercial portion will include an additional 7,231 square feet of restaurant space. Pad 1 would be located in the southwest corner and is planned as a 2,750 square-foot drive-thru. Pad 2 is located on the southeast corner and includes 3,348 square feet of restaurant space as well as a 1,133 square foot coffee drive-thru. These buildings are labeled as “Pad 1” and “Pad 2” on **Figure 4**. Approximately 4,500 square feet of outdoor eating areas and multi-function gathering space will be placed across both the north and south portions of the site and would be open for breakfast, lunch, and dinner daily.

Both the residential and commercial sections of the project have an architectural design that has been modeled after the City of Wildomar’s “Farm Chic” design style. The Sprouts Farmers Market exterior would consist of primarily neutral tones including shades of gray, beige and brown with a teal accent on concrete, stone, and wood façades, as shown in **Figure 6**, Sprouts Farmers Market Exterior Elevations. The

other commercial buildings on site would contain a similar color scheme, and materials as shown in **Figure 7**, Shops1-South Elevation and East Elevation; **Figure 8**, Pad 1- South Elevation and East Elevation; and **Figure 9**, Pad 2- Northwest Elevation and Southwest Elevation. The maximum height of these buildings is 38 feet and 6 inches.

Access to the residential portion of the site would be provided via two gated entrances/exits. Catt Road would be extended from Arya Road to function as a project driveway and one access point would be provided at the southwest corner of the site via this driveway. The other residential access point would be provided on the northeast corner of the project via Wildomar Trail and include an internal driving aisle that extends around the north and west perimeter of the project linking the two access points. The residential development would provide 283 spaces consisting of 119 open stalls, 71 carport stalls, and 93 garage stalls. The commercial portion would be accessible from three points along Wildomar Trail. The Catt Road driveway would extend into the commercial portion of the project, providing an additional entrance/exit for Pad 1 and Pad 2. The commercial portion of the project would provide 195 parking spaces for the commercial uses as well as 16 stalls for clean-air vehicles.

The project also includes 0.85 acres of off-site improvements and dedications. These include a 0.38-acre Catt Road improvement, a 0.20-acre Wildomar Trail improvement, and a 0.26-acre Clinton Keith Road improvement. An additional 0.10-acre is proposed as a Catt Road vacation for the commercial portion of the project with an easement retained for public utilities. An additional 0.007-acre will be dedicated for Clinton Keith Road and 0.016-acre dedicated for Catt Road. The project, including the residential, commercial and roadway improvements, totals 10.02 acres.

Electric power service will be provided by Southern California Edison (SCE) and natural gas service by Southern California Gas Company. Additional electric, gas, telephone, and cable services to the proposed development will be provided through extension of existing facilities located in Catt Road and Wildomar Trail. Three existing power poles along Catt Road are proposed to be placed in an underground system in accordance with SCE Rule 20 criteria and appropriate design features.

Once occupied, the proposed project is expected to generate a total of 4,551 daily trips with 282 AM peak hour trips and 404 PM peak hour trips. The proposed development plans, including architectural renderings and elevations, are provided in **Appendix 1.**

IV. EXECUTIVE SUMMARY

Through analysis provided in this MND, it was determined that the proposed project has the potential to result in significant environmental impacts to Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Tribal Cultural Resources, and Wildfire. Mitigation measures are identified that would reduce all impacts to less than significant levels. **Table ES-1,** Project Impact and Mitigation Summary, presents an at-a-glance summary of the identified significant impact issue areas and required mitigation measures.

Table ES-1 Project Impact and Mitigation Summary			
3. Air Quality			
b) Expose sensitive receptors to substantial pollutant concentrations?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant

AQ-1 During the site preparation phase, construction equipment greater than 150 horsepower (hp), the Construction Contractor shall ensure that off-road diesel construction equipment that complies with Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.

Timing/Implementation: *During site preparation*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Planning Department*

AQ-2 All actively graded (disturbed) areas within the project site during site preparation activities shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12 percent in maintained for actively graded areas. Moisture content can be verified with use of a moisture probe by the grading contractor.

Timing/Implementation: *During site preparation*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Planning Department*

4. Biological Resources			
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant

BIO-1 The Project applicant/developer shall retain a qualified biologist to conduct a 30-day pre-construction survey for burrowing owls (BUOW). The results of the survey shall be submitted to the City of Wildomar prior to obtaining a grading permit. If BUOW are not detected during the pre-construction survey, no further mitigation is required. If BUOW are detected during the pre-construction survey, the project applicant shall relocate burrowing owls out of harm's way, in consultation with the CDFW. Notification to the CDFW shall occur if burrowing owls are found to be present onsite and the development of a conservation strategy in cooperation with the U/S/ Fish and Service, the CDFW, and the Western Riverside County Regional Conservation Authority (RCA) shall be conducted. The project applicant/developer and a qualified consulting biologist will be required to prepare and submit for approval a

Table ES-1 Project Impact and Mitigation Summary			
BUOW relocation program. The report shall be submitted to the applicant and the City of Wildomar concurrently. *Timing/Implementation:* *Within 30 days prior to construction, Prior to issuance of grading permits* *Enforcement/Monitoring:* *City of Wildomar Planning Department*			
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
BIO-2 Prior to vegetation clearance, the Project applicant/developer shall retain a qualified biologist to conduct a pre-disturbance nesting bird survey in accordance with the following: • The survey shall be conducted no more than three (3) days prior to the initiation of clearance/construction work; • If pre-disturbance surveys indicate that bird nests are not present or are inactive, or if potential habitat is unoccupied, no further mitigation is required; • If active nests of birds are found during the surveys, a species-specific no-disturbance buffer zone shall be established by a qualified biologist around active nests until a qualified biologist determines that all young have fledged (i.e., no longer reliant upon the nest). *Timing/Implementation:* *Within three (3) days prior to the initiation of clearance/construction work* *Enforcement/Monitoring:* *City of Wildomar Planning Department*			
3. Cultural Resources			
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
Implement Mitigation Measures **TRI-1** through **TRI-7** (see Tribal Cultural Resources, below).			
c) Disturb any human remains, including those interred outside of dedicated cemeteries?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant

Table ES-1 Project Impact and Mitigation Summary			
CUL-1 **Human Remains.** If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98. *Timing/Implementation:* *During any ground-disturbing construction activities* *Enforcement/Monitoring:* *City of Wildomar Engineering Department and Planning Department*			
7. Geology and Soils			
a) i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
GEO-1 The project applicant/developer shall incorporate the recommendations of the Geotechnical Report prepared Leighton and Associates, Inc. (**Appendix 8)** into project plans related to the proposed project. The project's building plans shall demonstrate that they incorporate all applicable recommendations of the Geotechnical Report and comply with all applicable requirements of the latest adopted version of the California Building Code. *Timing/Implementation:* *During building plan check, prior to any ground-disturbing construction activities* *Enforcement/Monitoring:* *City of Wildomar Planning Department and Building and Safety Department*			

Table ES-1 Project Impact and Mitigation Summary			
a) ii) Strong seismic ground shaking?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
Implement Mitigation Measure **GEO-1**			
a) iii) Seismic-related ground failure, including liquefaction?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
Implement Mitigation Measure **GEO-1**			
b) Result in substantial soil erosion or the loss of topsoil?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
Implement Mitigation Measure **GEO-1**			
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
Implement Mitigation Measure **GEO-1**			
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
GEO-2 A paleontological grading observation schedule by a Certified Paleontologist shall be maintained when grading in bedrock units to further evaluate the fossil resources of the site. Salvage operations shall be initiated by the Certified Paleontologist and coordinated with the developer if other significant concentrations of fossils, as determined by the Certified Paleontologist, are encountered. Any paleontological resources shall be provided for curation at a local curation facility, or any other local museum or repository willing and able to accept and house the resource to preserve for future scientific study. *Timing/Implementation:* *During ground-disturbing construction activities* *Enforcement/Monitoring:* *City of Wildomar Planning Department and Building and Safety Department*			

Table ES-1 Project Impact and Mitigation Summary			
9. Hazards and Hazardous Materials			
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant

HAZ-1 Prior to the development of the site, representative sampling of the soil stockpiles shall be conducted. Soil samples shall be analyzed by a laboratory licensed with the Environmental Laboratory Accreditation Program [ELAP] for total petroleum hydrocarbon chains by EPA Method 8015M, Title 22 Metals by EPA Method 6010B/7471A, organochlorine pesticides by EPA Method 8081A, volatile organic compounds by EPA Method 8260B/5035 and polychlorinated biphenyls by EPA Method 8082. During stockpile testing, a soil sample shall be collected from the area where an orchard may have been located and tested for organochlorine pesticides to assess for residual pesticides**.** If the results of the soil testing show chemical levels are below EPA Region 9 or DTSC screening levels for residential land use, grading or excavation may proceed accordingly. Remediation and/or removal of contaminated soils shall be made prior to development, if chemical levels are above screening levels. Remediation shall be made in coordination with the local health department, SCAQMD, the California Department of Toxic Substances Control, the U. S. Environmental Protection Agency or other regulatory agencies and in compliance with established residential screening levels.

Timing/Implementation: *Prior to site development*

Enforcement/Monitoring: *City of Wildomar Building Department, Local Health Department, SCAQMD, California Department of Toxic Substances Control, U.S. Environmental Protection Agency*

HAZ-2 After grading is completed, but before construction begins, the project Applicant/developer shall install soil gas probes with a 100-foot grid spacing in the footprints of the proposed structures, at depths of 5 feet below ground surface and 15 feet below ground surface at each location. Methane shall be tested from the probes with a properly calibrated hand-held device with a detection limit of no greater than 500 ppmv, or via a laboratory licensed with ELAP by ASTM Method 1946D, or a combination of the two. In addition, calibrated pressure gauges such as Magnehelic gauges or equivalent with a range of 0-10 inches of water pressure to a range of 0-100 inches of water pressure shall be used on each probe. If methane levels in probes are below 10 percent of the Lower Explosive Limit (10 percent LEL or 5,000 ppmv), the project could proceed without further action. For areas of the site that have methane concentrations at or exceeding 10 percent LEL or have pressures exceeding 3 inches of water, further testing shall be implemented to determine if a methane mitigation system is necessary. If additional weekly testing shows that methane concentrations consistently exceed 10 percent LEL or have pressures exceeding 3 inches of water over a period of 30 days

Table ES-1 Project Impact and Mitigation Summary		
and a plot of the resulting data does not show a downward trend in concentrations or pressures, then a methane mitigation system shall be incorporated into the building plans for the structures where the elevated concentrations and/or pressures were observed. If there is a downward trend but the concentrations are still above 10 percent LEL or have pressures above 3 inches of water, then additional testing past 30 days may be requested to determine if concentrations and pressures subside below the action levels.		
	Timing/Implementation:	*Prior to site development*
	Enforcement/Monitoring:	*City of Wildomar Building Department, Local Health Department, SCAQMD, California Department of Toxic Substances Control, U.S. Environmental Protection Agency*

Table ES-1 Project Impact and Mitigation Summary			
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant

HAZ-3 Prior to the issuance of building permits, the project applicant/developer shall demonstrate, to the satisfaction of the City Building Official and the Riverside County Fire Chief, compliance with the 2019 California Building Code (or the most recent edition) (Part 2 of Title 24 of the California Code of Regulations) and the 2019 California Fire Code (or the most recent edition) (Part 9 of Title 24 of the California Code of Regulations), including those regulations pertaining to materials and construction methods intended to mitigate wildfire exposure as described in the 2019 California Building Code and California Residential Code (or most recent edition); specifically California Building Code Chapter 7A; California Residential Code Section R327; California Residential Code Section R337; California Referenced Standards Code Chapter 12-7A; and California Fire Code Chapter 49.

Timing/Implementation: *Prior to issuance of building permits*

Enforcement/Monitoring: *City of Wildomar Building Department and Riverside County Fire Department*

HAZ-4 Prior to the issuance of a certificate of occupancy, the applicant shall demonstrate, to the satisfaction of the City Building Official and the County Fire Chief, compliance with the vegetation management requirements prescribed in California Fire Code Section 4906 and California Government Code Section 51182.

Timing/Implementation: *Prior to issuance of certificate of occupancy*

Enforcement/Monitoring: *City of Wildomar Building Department and Riverside County Fire Department*

Table ES-1 Project Impact and Mitigation Summary			
13. Noise			
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant
The following mitigation measure from the Clinton Keith Road Widening Project IS/MND (SCH# 200910103) would also be applicable to the proposed project (numbering is from 2009 IS/MND): **NOI-1** All noise producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers and air-inlet silencers, where appropriate, in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment. *Timing/Implementation: Prior to construction* *Enforcement/Monitoring: City of Wildomar Building Department*			
17. Transportation			
d) Result in inadequate emergency access?			
Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant

Table ES-1 Project Impact and Mitigation Summary
The following mitigation measure from the Clinton Keith Road Widening Project IS/MND (SCH# 200910103) would also be applicable to the proposed project (numbering is from 2009 IS/MND): **TRF-1** During final design, stage construction and detour plans will be prepared to minimize disruption to the traveling public. Such plans shall be prepared in consultation with affected local jurisdictions prior to construction. Adequate access shall be provided at all times to and from side streets serving adjacent land uses. To further ensure public safety, proper detours and warning signs shall be established. The stage construction and detour plans shall be designed to not interfere with any emergency response or evacuation plans, and construction routes shall utilize non-residential streets to the extent practicable. Finally, such plans shall identify construction worker parking areas and equipment staging areas to minimize impacts to roadway operations. *Timing/Implementation: During final design* *Enforcement/Monitoring: City of Wildomar Building Department*
18. Tribal Cultural Resources
a) i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).

Level of Significance without Mitigation	Potentially Significant	**Resulting Level of Significance**	Less Than Significant

TRI-1 Inadvertent Archeological Find. If during ground disturbance activities, cultural resources are discovered that were not assessed by the archaeological report(s) and/or environmental assessment conducted prior to project approval, the following procedures shall be followed. Cultural resources are defined, as being multiple artifacts in close association with each other, but also include fewer artifacts if the area of the find is determined to be of significance due to its sacred or cultural importance as determined in consultation with the lead agency and Native American Tribe(s) that elected to consult under AB 52 ("Consulting Tribe(s)").

a. All ground disturbance activities within 100 feet of the discovered cultural resources shall be halted until a meeting is convened between the developer, the archaeologist, the tribal representative(s) and the Planning Director to discuss the significance of the find.
b. At the meeting, the significance of the discoveries shall be discussed and after consultation with the tribal representative(s), developer, and the archaeologist, a decision shall be made, with the concurrence of the Planning Director, as to the

appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources.

c. Grading or further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation. Work shall be allowed to continue outside of the buffer area and will be monitored by additional Tribal monitors if needed.

d. Treatment and avoidance of the newly discovered resources shall be consistent with the Treatment and Monitoring Agreements entered into with the Consulting Tribe(s) and the applicant. This may include avoidance of the cultural resources through project design, in-place preservation of cultural resources located in native soils and/or re-burial on the Project property so they are not subject to further disturbance in perpetuity as identified in Mitigation Measures TRI-2 and TRI-7.

e. If the find is determined to be significant and avoidance of the site has not been achieved, a Phase III data recovery plan (see Mitigation Measure TRI-6) shall be prepared by the project archeologist, in consultation with the Consulting Tribe(s), and shall be submitted to the City for their review and approval prior to implementation of the said plan.

f. Pursuant to Calif. Pub. Res. Code § 21083.2(b) avoidance is the preferred method of preservation for archaeological resources and tribal cultural resources. If the landowner and the Consulting Tribe(s) cannot agree on the significance or the mitigation for the archaeological or tribal cultural resources, these issues will be presented to the Planning Director for decision. The City's Planning Director shall make the determination based on the provisions of the California Environmental Quality Act with respect to archaeological and tribal cultural resources, recommendations of the project archeologist, and shall take into account the cultural and religious principles and practices of the Consulting Tribe(s). Notwithstanding any other rights available under the law, the decision of the City Planning Director shall be appealable to the City Planning Commission and/or City Council.

Timing/Implementation: *During any ground-disturbing or construction activities*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Planning Department*

TRI-2 **Cultural Resources Disposition.** In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries:

a. One or more of the following treatments, in order of preference, shall be employed with the Consulting Tribe(s). Evidence of such shall be provided to the City of Wildomar Planning Department:

i. Preservation-In-Place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place where they were found with no development affecting the integrity of the resources.

ii. Reburial of the resources on the Project property. The measures for reburial shall include, at least, the following: Measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed, with an exception that sacred items, burial goods and Native American human remains are excluded. Any reburial process shall be culturally appropriate. Listing of contents and location of the reburial shall be included in the confidential Phase IV report (see Mitigation Measure TRI-6). The Phase IV Report shall be filed with the City under a confidential cover and not subject to Public Records Request.

iii. If preservation in place or reburial is not feasible then the resources shall be curated in a culturally appropriate manner at a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees by the Applicant necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the landowner to the City. There shall be no destructive or invasive testing on sacred items, burial goods, and Native American human remains, as defined by the cultural and religious practices of the Most Likely Descendant. Results concerning finds of any inadvertent discoveries shall be included in the Phase IV monitoring report.

Timing/Implementation: *During grading activities*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Planning Department*

TRI-3 **Archaeologist Retained.** Prior to issuance of a grading permit the project applicant shall retain a Riverside County qualified Registered Professional Archaeologist (RPA), to monitor all ground disturbing activities in an effort to identify any unknown archaeological resources.

The Registered Professional Archaeologist and the Tribal monitor(s) required by Mitigation Measures TRI-4 and TRI-5 shall manage and oversee monitoring for all initial ground disturbing activities and excavation of each portion of the project site including clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock

crushing, structure demolition and etc. The Registered Professional Archaeologist and the Tribal monitor(s), shall independently have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources in coordination with any required special interest or tribal monitors.

The developer/permit holder shall submit a fully executed copy of the contract to the Planning Department to ensure compliance with this condition of approval. Upon verification, the Planning Department shall clear this condition.

In addition, the Registered Professional Archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, shall develop a Cultural Resources Management Plan (CRMP) in consultation pursuant to the definition in AB 52 to address the details, timing and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB 52 tribal consultation process for the Project, has not opted out of the AB 52 consultation process, and has completed AB 52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB52. Details in the Plan shall include:

a. Project grading and development scheduling;

b. The Project archaeologist and the Consulting Tribes(s) shall attend the pre-grading meeting with the City, the construction manager and any contractors and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The Training will include a brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the Project following the initial Training must take the Cultural Sensitivity Training prior to beginning work and the Project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis;

c. The protocols and stipulations that the contractor, City, Consulting Tribe(s) and Project archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

Timing/Implementation: Prior to issuance of grading permit

Table ES-1 Project Impact and Mitigation Summary	
	Enforcement/Monitoring: *City of Wildomar Engineering Department and Planning Department*
TRI-4	**Native American Monitoring (Pechanga).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Pechanga Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land divider/permit holder for the monitoring of the project to the Planning Department and to the Engineering Department. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the Project Archaeologist. *Timing/Implementation:* *During ground-disturbing activities* *Enforcement/Monitoring:* *City of Wildomar Engineering Department and Planning Department*
TRI-5	**Native American Monitoring (Soboba).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Soboba Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land divider/permit holder for the monitoring of the project to the Planning Department and to the Engineering Department. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the Project Archaeologist. *Timing/Implementation:* *During ground-disturbing activities* *Enforcement/Monitoring:* *City of Wildomar Engineering Department and Planning Department*
TRI-6	**Archeology Report – Phase III and IV.** Prior to final inspection, the developer/permit holder shall prompt the Project Archeologist to submit two (2) copies of the Phase III Data Recovery report (if required for the Project) and the Phase IV Cultural Resources Monitoring Report. The Phase IV report shall include evidence of the required cultural/historical sensitivity training for the construction staff held during the pre-grade meeting. The Planning Department shall review the reports to determine adequate mitigation compliance. Provided the reports are adequate, the Community Development Department shall clear this condition. Once the report(s) are determined to be adequate, two (2) copies shall be submitted to the Eastern Information Center (EIC) at the University of California Riverside

<table>
<tr><th colspan="4">Table ES-1 Project Impact and Mitigation Summary</th></tr>
<tr><td colspan="4">(UCR) and one (1) copy shall be submitted to the Consulting Tribe(s) Cultural Resources Department(s).

Timing/Implementation: Prior to final inspection

Enforcement/Monitoring: City of Wildomar Engineering Department and Planning Department

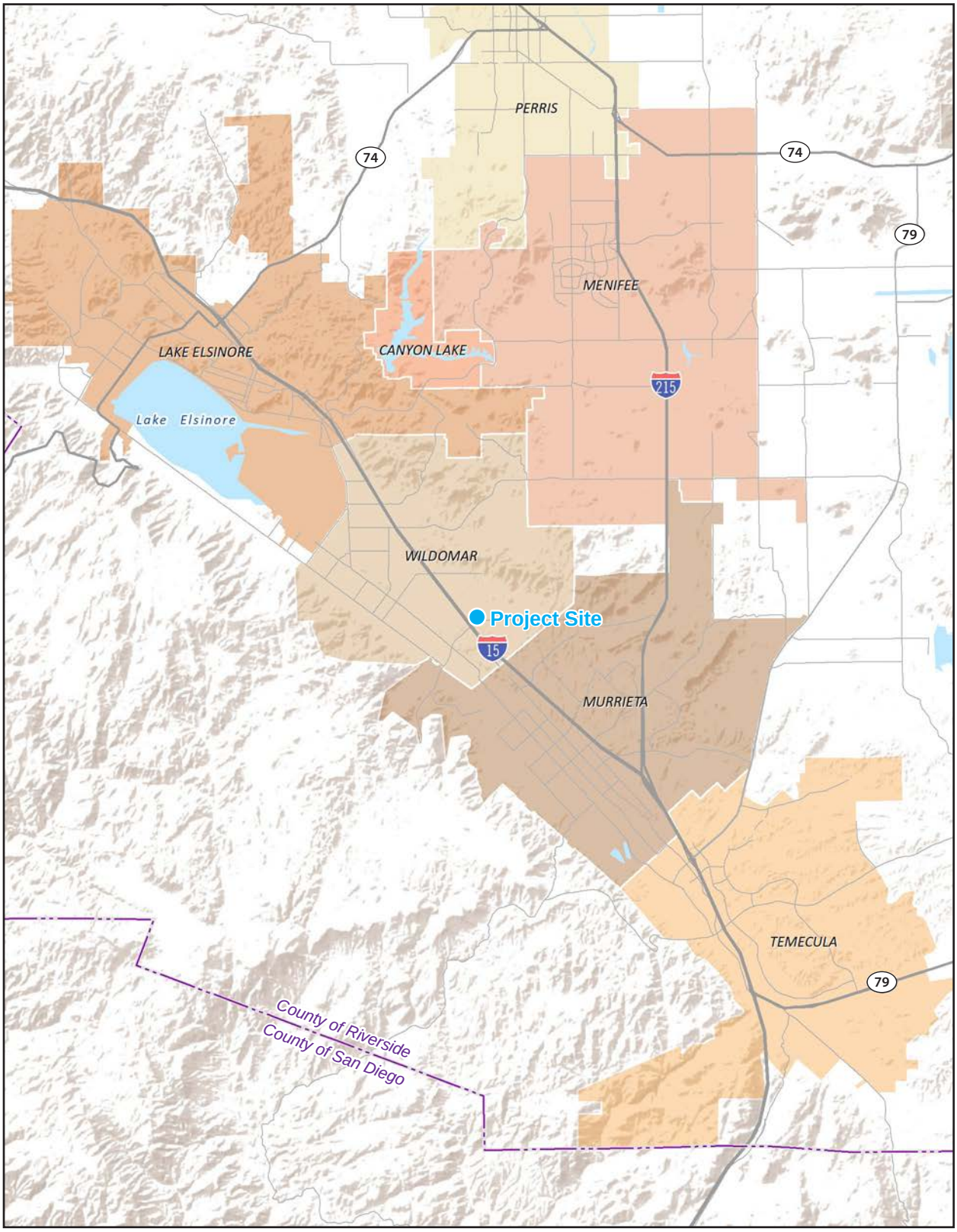
TRI-7 Non-Disclosure of Reburial Locations. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or associated grave goods shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, pursuant to the specific exemption set forth in California Government Code 6254 I., parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code 6254 (r).

Timing/Implementation: During discovery of Native American human remains

Enforcement/Monitoring: City of Wildomar Engineering Department and Planning Department

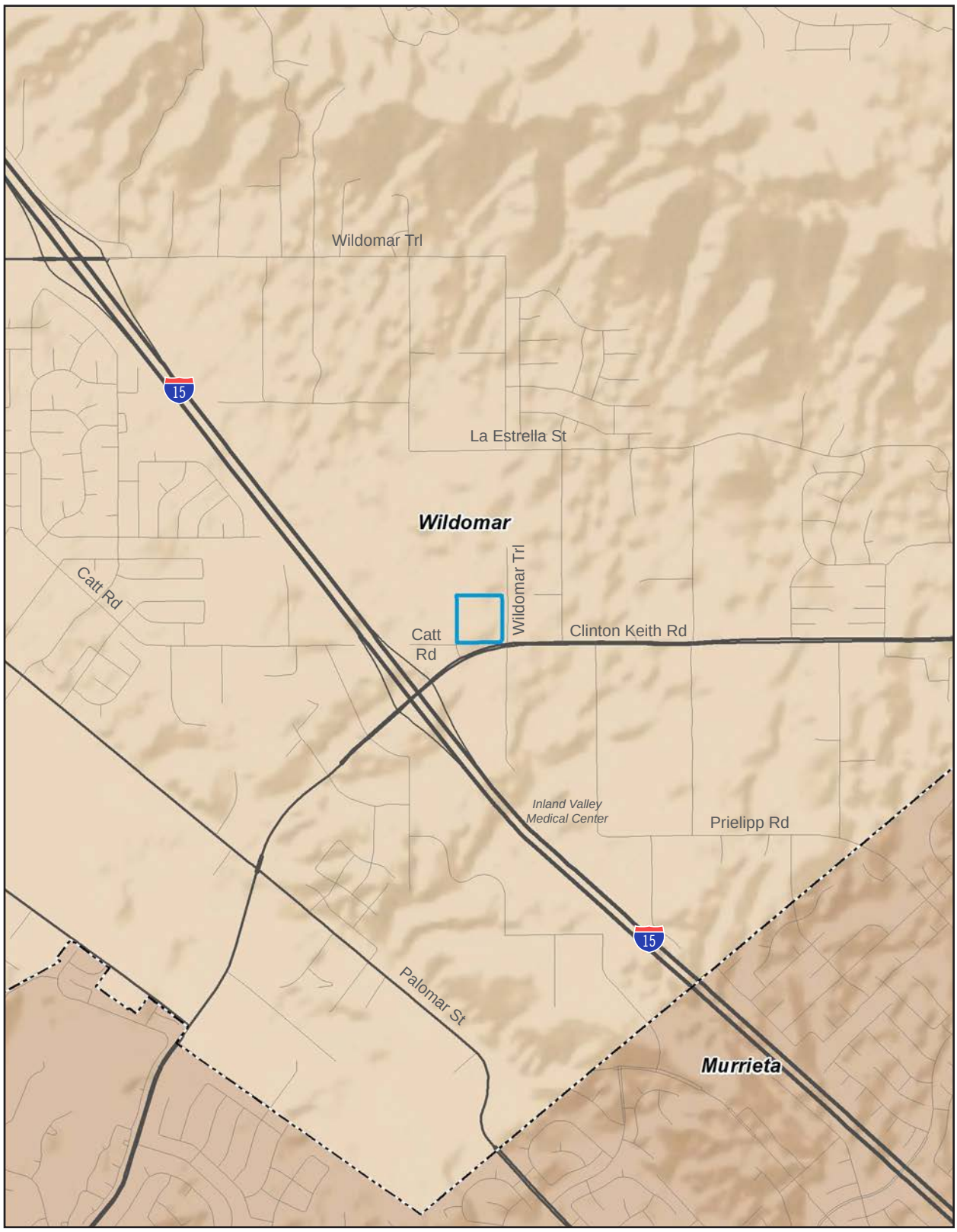
Implementation of Mitigation Measure CUL-1.</td></tr>
<tr><td colspan="4">a) ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision(c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</td></tr>
<tr><td>Level of Significance without Mitigation</td><td>Potentially Significant</td><td>Resulting Level of Significance</td><td>Less Than Significant</td></tr>
<tr><td colspan="4">Implement Mitigation Measures TRI-1 through TRI-7, and CUL-1.</td></tr>
<tr><th colspan="4">20. Wildfire</th></tr>
<tr><td colspan="4">a) Substantially impair an adopted emergency response plan or emergency evacuation plan?</td></tr>
<tr><td>Level of Significance without Mitigation</td><td>Potentially Significant</td><td>Resulting Level of Significance</td><td>Less Than Significant</td></tr>
<tr><td colspan="4">Implement Mitigation Measures HAZ-3 and HAZ-4</td></tr>
<tr><td colspan="4">b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?</td></tr>
<tr><td>Level of Significance without Mitigation</td><td>Potentially Significant</td><td>Resulting Level of Significance</td><td>Less Than Significant</td></tr>
<tr><td colspan="4">Implement Mitigation Measures HAZ-3 and HAZ-4</td></tr>
</table>

Figure 1 - Regional Location



Note: Unincorporated county areas are shown in white.
Source: ESRI, 2022

Figure 2 - Local Vicinity



Project Boundary

Note: Unincorporated county areas are shown in white.

Source: ESRI, 2022

0 2,000
Scale (Feet)

Figure 3 - Aerial Photogarph



Project Boundary

0 230
Scale (Feet)

Source: Nearmap, 2022

Figure 4 - Site Plan



Project Boundary

0 150
Scale (Feet)

Source: Intracorp, 2022

PlaceWorks

Figure 5 - Conceptual Residential Building Elevations



BUILDING 1 SOUTH

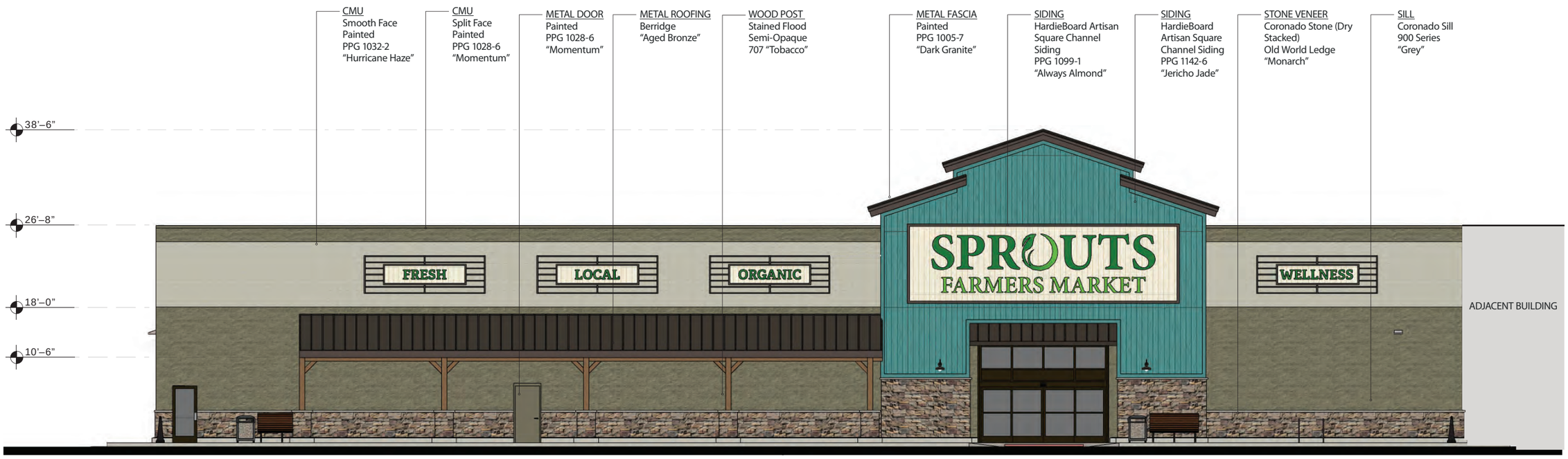


BUILDING 1 NORTH

0 20
Scale (Feet)

Source: AO Architects, 2022

Figure 6 - Sprouts Farmers Market Exterior Elevations



Front Elevation

0 10
Scale (Feet)

Source: brr, 2022

Figure 7 - Shops 1 South Elevation and East Elevation



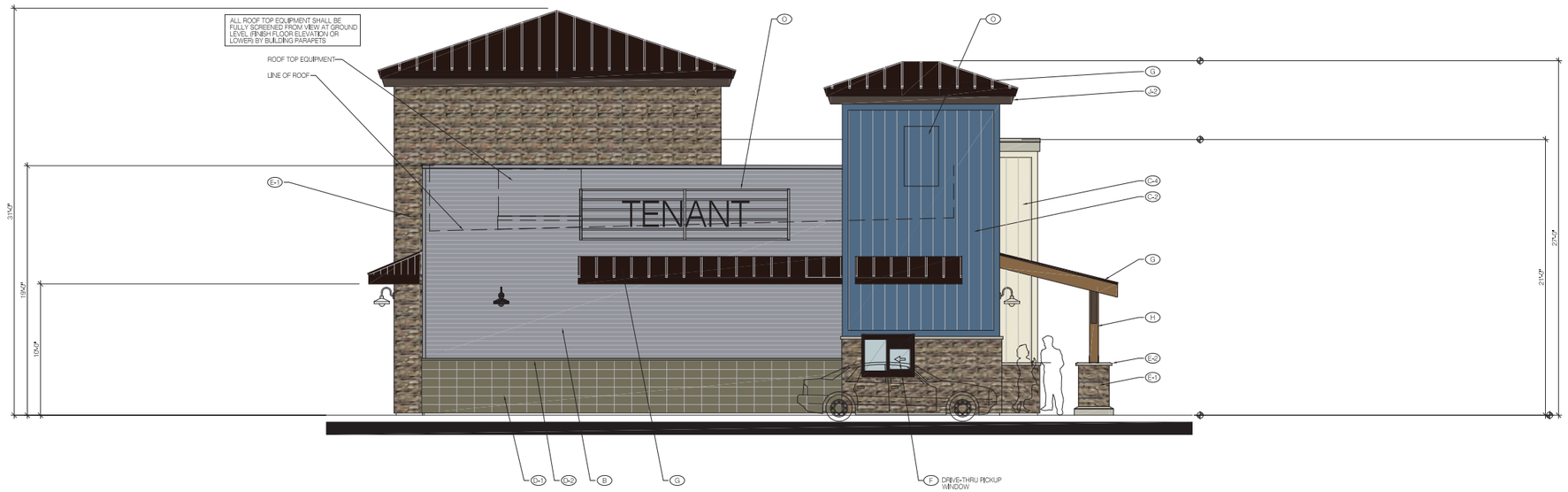
EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE- MFR: PATTERN: ABK/ DOWNTOWN COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM MFR: IMETCO COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER- CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM- COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE- STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO" METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED) COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED) COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED) COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIVE LIGHT FIXTURE- "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED) HILITE H-CDSPRTS-45972 COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE- CREE XSPW-B-WM-#MF-#1-40K-U-T2

0 10
Scale (Feet)

Source: GK Pierce Architects, 2022

Figure 8 - Pad 1 South Elevation and East Elevation



South (Clinton Kieth Road) Elevation



East Elevation

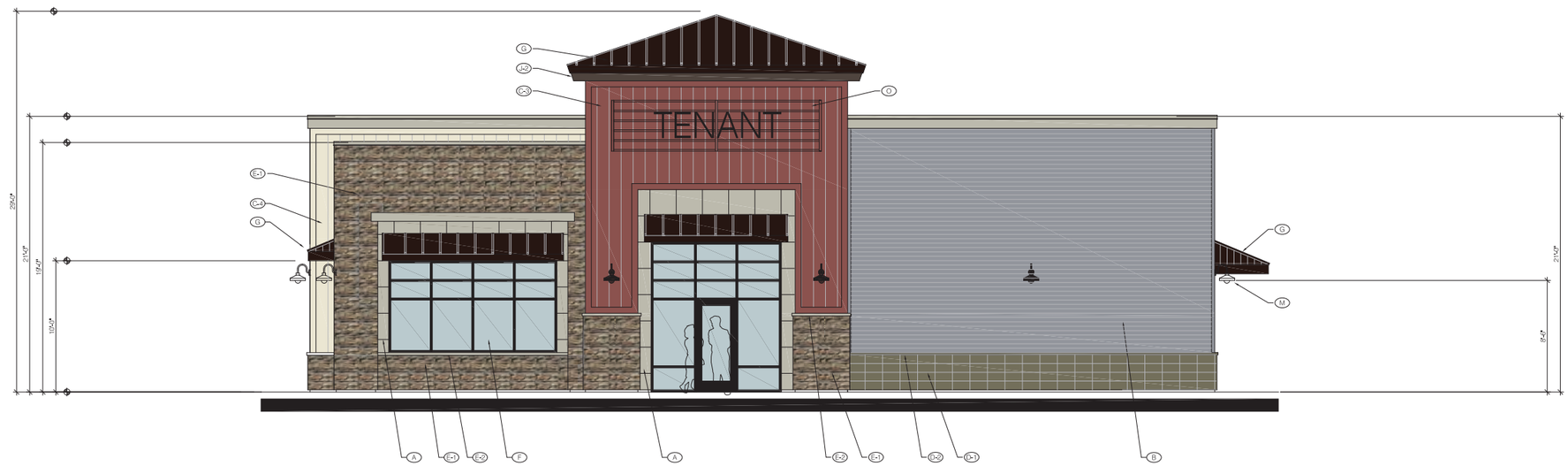
EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE- MFR: PATTERN: ABK/ DOWNTOWN COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM MFR: IMETCO COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER- CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM- COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE- STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO" METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED) COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED) COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED) COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIVE LIGHT FIXTURE- "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED) HILITE H-CDSPRTS-45972 COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE- CREE XSPW-B-WM-#ME-#L-40K-UL-BZ REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT- REFER TO SIGN PROGRAM

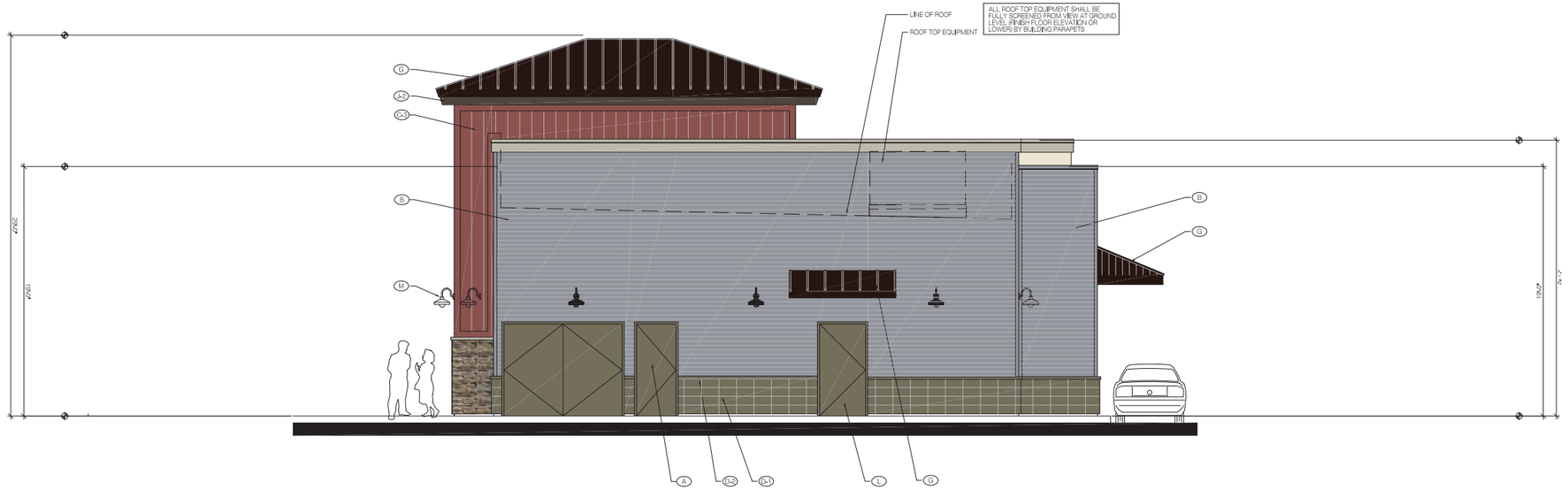
0 10
Scale (Feet)

Source: GK Pierce Architects, 2022

Figure 9 - Pad 2 Northwest Elevation and Southwest Elevation



Northwest Elevation



Southwest Elevation

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE- MFR/ PATTERN: ABK/ DOWNTOWN COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM MFR: IMETCO COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER- CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM- COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE- STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO" METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED) COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED) COLOR: PPG 1085-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED) COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIVE LIGHT FIXTURE- "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED) HILITE H-CDSPRTS-45972 COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE- CREE XSPW-B-WM-#ME-#L-40K-UL-BZ REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT- REFER TO SIGN PROGRAM

0 10
Scale (Feet)

Source: GK Pierce Architects, 2022

V. ENVIRONMENTAL CHECKLIST FORM

A. BACKGROUND

1. Project Title:

Wildomar Crossroads Mixed-Use Project (Planning Application No. 21-0145)

2. Lead Agency Name and Address:

City of Wildomar, 23873 Clinton Keith Road, Suite 201, Wildomar, CA 92595

3. Contact Person and Phone Number:

Matthew Bassi, Planning Director; (951) 677-7751, ext. 213

4. Project Location:

The project is located on the northwest corner of Wildomar Trial and Clinton Keith Road and encompasses Assessor's Parcel Numbers (APN) 376-410-015, -016, -017, -021.

5. Project Sponsor's Name and Address:

Ralph Deppisch, Sage CK15 Wildomar, LLC., 4340 Von Karman Avenue, Suite 110, Newport Beach, CA 92660

6. General Plan Designation:

MUPA (Mixed Use Planning Area)

7. Zoning:

C-P-S (Scenic Highway Commercial)

8. Description of Project:

The proposed project is a mixed use development that would include a gated multi-family apartment community and 35,422 square-foot commercial retail center. The residential portion of the project would consist of 150 housing units with studios, 1-bedroom and 2-bedroom units on the western side of the site with parking along the western and northern edges and a 3,728 square-foot club/fitness center. The proposed retail center would be anchored by a Sprouts Grocery store, one multi-tenant retail building, two drive-through restaurants, and one drive-through coffee restaurant, including approximately 4,500 square feet of outdoor seating/eating areas.

The proposed development plans, including architectural renderings and elevations, are provided in **Appendix 1.**

9. Surrounding Land Uses and Setting:

ADJACENT LAND USE, LAND USE DESIGNATION, AND ZONING			
Location	**Current Land Use**	**General Plan Land Use Designation**	**Zoning**
North	Hartford Park Association Sensitive Habitat Area followed by Depasquale Road and single-family units	Medium Density Residential (MDR)	One-Family Dwellings (R-1)
South	W Freedom Ave followed by Freedom Business Park	Commercial Retail (CR)	Scenic Highway Commercial (C-P-S)
East	Wildomar Trail followed by the Clinton Keith Village commercial development inclusive of a gas station, 7-11 convenience store, Grocery Outlet, and additional commercial buildings.	Commercial Retail (CR)	Scenic Highway Commercial (C-P-S)
West	Single-family residential units	Medium Density Residential (MDR)	One-Family Dwellings (R-1)

10. Other Public Agencies Whose Approval May Be Required:

- San Diego Regional Water Quality Control Board
- Elsinore Valley Municipal Water District
- Riverside County Flood Control and Water Conservation District

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

The City of Wildomar sent notice to tribes on December 10, 2021, that have requested to be notified of projects pursuant to Assembly Bill (AB) 52 Native Americans: California Environmental Quality Act and Public Resources Code Section 21080.3.1. The City has completed consultations with Native American Tribes (please refer to section V.18 of the Initial Study, Tribal Cultural Resources).

B. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project involving at least one impact that is "Less Than Significant Impact with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology/Soils	☐ Greenhouse Gas Emissions	☒ Hazardous and Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☒ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☒ Transportation	☒ Tribal Cultural Resources
☐ Utilities and Service Systems	☒ Wildfire	☒ Mandatory Findings of Significance

C. DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because of the incorporated mitigation measures and revisions in the project have been made by or agreed to by the project proponent. **A MITIGATED NEGATIVE DECLARATION will be prepared**.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

City Representative

Matthew Bassi

Matthew C. Bassi, Planning Director — Date

Applicant

Pursuant to Section 15070(b)(1) of the California Environmental Quality Act, as the project applicant, I agree to revisions of the project plans or proposals as described in this Initial Study/Mitigated Negative Declaration to avoid or reduce environmental impacts of my project to a less than significant level.

Wildomar Crossroads Mixed-Use Project, LLC, Applicant — Date

D. ENVIRONMENTAL ANALYSIS

1. Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (*Public views are those that are experienced from publicly accessible vantage point*). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

DISCUSSION

a) Less Than Significant Impact. The proposed project would result in the development of commercial retail up to 38 feet and 6 inches in height and apartment residential buildings with three stories up to 39 feet and 9 inches in height. The average elevation across the site is 1,345 feet above mean sea level (amsl). Scenic vistas in the project vicinity include mountain ridgelines in the north and southwest directions of the project site ranging from approximately 4,000 feet (amsl) to 10,000 feet amsl. Existing commercial and residential uses partially obstruct the ridgelines visible southwest of the site. Views of these hills may be altered by construction of the proposed structures for the residential uses bordering the north side of the project site. The site is vacant and surrounded by residential uses to the west and north and commercial uses to the east and south, and the proposed structures would not fully obstruct any scenic view or resource. Views of the surrounding ridgelines would not be obstructed from off-site viewpoints. Therefore, implementation of the proposed project would not have a substantial adverse effect on a scenic vista, and this impact is less than significant.

b) No Impact. The project site is located approximately 25 miles west of the nearest portion of a designated State Scenic Highway, State Route (SR) 74 in the San Jacinto Mountains. The site is also

approximately 1,000 feet away from the Interstate 15 which is eligible for listing as a State Scenic Highway, but not officially designated (CALTRANS 2018). Additionally, construction of the proposed project would not require the removal of any tree, rock outcropping, or historic building that has been recognized as a scenic resource. Therefore, there are no impacts to scenic resources within a State Scenic Highway.

c) Less Than Significant Impact. The project site is in an urbanized area that includes a residential neighborhood of single-family homes to the north and west directions of the site and commercial shopping centers to the south and east directions. The design of the existing homes in the area contains a mix of white, grey, beige and brown color palette. The existing commercial development consists of similarly neutral tones and majority stucco facades with brown stone accents. The proposed project would be compatible with the character of these existing developments; the commercial portion proposes similar tones of off-white, brown and grey stucco and a brown manufactured stone veneer for much of the buildings lower façade, as shown in **Figures 6**, **7**, **8** and **9**. The residential portion of the proposed project would contain primarily white and grey tones with building materials consisting of wood siding and stucco, as shown in **Figure 5**. This style would also be consistent with the existing character of the area, complementing the appearance of several other multi-family apartments nearby.

Furthermore, the proposed project is required to undergo review by the City Planning Commission to determine its consistency with other design styles in the area. The project is also reviewed under a design guidelines checklist which determines its consistency with the City's established design styles. Both the residential and commercial portions of the project have been designed under the "Farm Chic" design guidelines, one of the City of Wildomar's recommended design styles. While the Planning Commission will make the final decision on compatibility, from the evidence in the record, the proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. Additionally, the project would be consistent with the standards of the Scenic Highway Commercial Zone as shown in Chapter 17.76, C-P-S Scenic Highway Commercial Zone, of the Wildomar Municipal Code including the restriction of building height to 50 feet. The City does not have any additional regulations regarding scenic quality. This impact is less than significant.

d) Less Than Significant Impact. The proposed project would result in new and increased sources of nighttime lighting and illumination including new building display and store lighting, signs, lights associated with vehicular travel street lighting, parking lot lights, and security-related lighting, and exterior lighting for the multi-family buildings. Chapter 8.64, Light Pollution, of the Wildomar Municipal Code establishes limits on the types of fixtures and size of bulbs used in all aspects of development. The project is required to comply with this ordinance, which is verified as part of the building permit application process and again prior to occupancy during building and site inspections of the site to ensure that the project's lighting will not create significant impacts. Consistent with the City's lighting standards (Wildomar Municipal Code Section 8.64.090), all proposed exterior light fixtures must have full cutoff so that there is no light pollution created above the 90-degree plane of the light fixtures. Furthermore, all light fixtures installed along the perimeter would include aluminum housing to eliminate the spillover of light pollution onto streets and neighboring properties. The project would not adversely affect day or nighttime views in the area, and the project would not contribute to night sky pollution. Therefore, this impact is less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. The project is required to comply with the provisions of Wildomar Municipal Code Chapter 8.64, Light Pollution.

MITIGATION MEASURES

None required.

2. Agriculture and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

DISCUSSION

a) No Impact. This site is not designated under the State Farmland Mapping and Monitoring Program (FMMP) as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, nor is the site adjacent to such designations. The site is designated under the class Other Land, which describes a land use that is vacant and nonagricultural surrounded on all sides by urban development. The project site is surrounded by urbanized uses. The project would not result in the conversion of agricultural lands, and therefore no impact would occur.

b) No Impact. There is not land zoned for agricultural use and there are no Williamson Act contracts on the project site. Therefore, no impact would occur.

c) No Impact. The project site is not designated as forestland or timberland, and there is no forestland or timberland adjacent to these sites. Therefore, no impact would occur.

d) No Impact. The project site does not contain forestland, nor is the project site zoned as forestland. Implementation of the proposed project would not convert forestland to non-forest use or result in a loss of forestland. Therefore, no impact would occur.

e) No Impact. The project site does not contain forestland or unique farmland. The project site is in an urbanized area, as shown in **Figure 3**. Development on the site would not result in the conversion of farmland to nonagricultural uses or forestland to non-forest uses. As such, impacts would be less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

3. Air Quality

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			✓	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			✓	
c) Expose sensitive receptors to substantial pollutant concentrations?		✓		
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

An Air Quality Assessment was prepared by Urban Crossroads on January 18, 2022. It was peer reviewed by Placeworks on March 11, 2022 and revised on April 13, 2022 (2022a) (see **Appendix 2**). This report evaluates the project's potential impacts on air resources.

DISCUSSION

a) **Less Than Significant Impact.** The project site is in the South Coast Air Basin (SoCAB), which is under the jurisdiction of the South Coast Air Quality Management District (South Coast AQMD). The South Coast AQMD is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which the basin is in nonattainment: ozone (O3), coarse particulate matter (PM10), and fine particulate matter (PM2.5). These are considered criteria pollutants because they are three of several prevalent air pollutants known to be hazardous to human health. An area designated as nonattainment for an air pollutant is an area that does not achieve national and/or state ambient air quality standards for that pollutant.

In order to reduce emissions of criteria pollutants for which the SoCAB is in nonattainment, the South Coast AQMD has adopted the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2016 AQMP is a regional and multi-agency effort including the South Coast AQMD, the California Air Resources Board (CARB), the Southern California Association of Governments (SCAG), and the US Environmental Protection Agency (EPA). The 2016 AQMP pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts,

defined in consultation with local governments and with reference to local general plans. The project is subject to the South Coast AQMD's AQMP.

Criteria for determining consistency with the AQMP are defined by the following indicators:

- Consistency Criterion No. 1: The proposed project will not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.
- Consistency Criterion No. 2: The proposed project will not exceed the assumptions in the AQMP based on the years of project buildout phase.

Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). CAAQS and NAAQS violations would occur if Localized Significance Thresholds (LSTs) or regional significance thresholds were exceeded. As evaluated in the Air Quality Assessment, the project's regional and localized construction-source emissions would not exceed applicable regional significance threshold and LST thresholds after implementation of mitigation measures **AQ-1** and **AQ-2**. Additionally, the project would not exceed the applicable regional and localized significance thresholds for operational activity. Therefore, the proposed project is determined to be consistent with the first criterion and impacts would be less than significant.

Consistency Criterion 2

The 2016 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Wildomar General Plan is considered to be consistent with the AQMP.

The City's General Plan designates the project site as a Mixed Use Planning Area (MUPA). The project site's current zoning designation is Scenic Highway Commercial (C-P-S) with a Mixed Used Overlay. The MUPA designation and the Mixed Use Overlay allow and encourage commercial and professional office uses to be located with multifamily residential development and do not identify a particular mix or intensity of uses for these zones. The project's proposed use of the site is to develop a "gated" multi-family apartment community and a commercial retail center. As such, the project uses are consistent with uses allowed under the MUPA designation and is thus consistent with both the City of Wildomar General Plan and the AQMP. Furthermore, the project would not exceed the regional or localized air quality significance thresholds. Therefore, impacts would be less than significant.

b) Less Than Significant Impact. The project site is in the SoCAB. State and federal air quality standards are often exceeded in many parts of the basin. A discussion of the project's potential short-term construction-period and long-term operational-period air quality impacts are provided below.

Construction Emissions

Construction activities associated with the project will result in emissions of VOC's, NO_x, SO_x, CO, PM_{10}, and $PM_{2.5}$. Emissions would result from demolition of a single-family residence, site preparation, grading which would include the export of 38,761 cubic yards of material, building construction, paving and architectural coating. Construction is anticipated to last 14 months from December 2022 to February 2024. As shown in **Table 3-1**, Project Construction Emissions Summary — Without Mitigation, emissions resulting from project construction would not exceed pollutant thresholds established by South Coast AQMD for emissions of any criteria pollutant. Therefore, criteria pollutant emissions generated during construction of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Impacts would be less than significant.

Table 3-1 Project Construction Emissions Summary – Without Mitigation

Year	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
2022	4.55	50.48	21.26	0.06	10.87	6.07
2023	3.89	53.02	25.89	0.18	10.46	5.70
2024	49.80	9.69	15.19	0.02	0.66	0.48
Winter						
2022	4.54	50.48	21.15	0.06	10.87	6.07
2023	3.89	54.47	54.40	0.18	10.46	5.70
2024	49.79	9.69	15.10	0.02	0.66	0.48
Maximum Daily Emissions	**49.80**	**54.47**	**25.89**	**0.18**	**10.87**	**6.07**
South Coast AQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: Urban Crossroads 2022a (Appendix 2)

Operational Emissions

Operational activities associated with the proposed project would result in emissions of VOcs, NOx, SOx, CO, PM10, and PM2.5. Operational emissions would be expected from area sources, energy sources, and mobile sources.

As shown in **Table 3-2**, Summary of Peak Operational Emissions — Without Mitigation, the proposed project's daily regional emissions from on-going operations would not exceed the South Coast AQMD's regional threshold. Therefore, criteria pollutant emissions generated during operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard. Impacts would be less than significant.

Table 3-2 Summary of Peak Operational Emissions – Without Mitigation

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$

Summer						
Area Source	4.20	2.63	13.49	0.02	0.27	0.27
Energy Source	0.14	1.20	0.78	7.38E-03	0.09	0.09
Mobile Source	14.43	11.31	76.97	0.13	12.71	3.47
Total Maximum Daily Emissions	**18.76**	**15.14**	**91.24**	**0.16**	**13.07**	**3.83**
South Coast AQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Winter						
Area Source	4.20	2.63	13.49	0.02	0.27	0.27
Energy Source	0.14	1.20	0.78	7.38E-03	0.09	0.09
Mobile Source	11.48	11.99	73.96	0.12	12.71	3.47
Total Maximum Daily Emissions	**15.81**	**15.82**	**88.23**	**0.15**	**13.07**	**3.83**
South Coast AQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: Urban Crossroads 2022a (Appendix 2)

c) Less Than Significant Impact with Mitigation. The proposed project would not expose sensitive receptors to substantial pollutants with mitigation measures incorporated.

LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQA at the nearest location where an individual can be expected to remain for 24 hours.

Localized Construction Impacts

Table 3-3, Project Localized Construction Emissions — Without Mitigation, identifies the localized impacts at the nearest receptor location in the vicinity of the project. Without mitigation, localized construction emissions would exceed the applicable South Coast AQMD LST's for emissions by emitting an excess of $PM_{2.5}$ and PM_{10} pollutants during the site preparation phase of construction.

Table 3-3 Project Localized Construction Emissions – Without Mitigation

Construction Activity	Year	Emissions (lbs/day)			
		NO_x	CO	PM_{10}	$PM_{2.5}$
Demolition	2022	25.72	20.59	1.27	1.16
	Maximum Daily Emissions	**25.72**	**20.59**	**1.27**	**1.16**
	SCAQMD Localized Threshold	162	750	4	3
	Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Site Preparation	2022	50.35	19.98	10.65	6.01
	2023	41.82	18.27	10.25	5.64
	Maximum Daily Emissions	**50.35**	**19.98**	**10.65**	**6.01**
	SCAQMD Localized Threshold	303	1,533	10	6
	Threshold Exceeded?	**NO**	**NO**	**YES**	**YES**
Grading	2023	28.66	14.77	4.62	2.47
	Maximum Daily Emissions	**28.66**	**14.77**	**4.62**	**2.47**
	SCAQMD Localized Threshold	257	1,244	8	5
	Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Source: Urban Crossroads 2022a (Appendix 2)

As shown in **Table 3-4**, Project Localized Construction Emissions – With Mitigation, after implementation of mitigation measures **AQ-1** and **AQ-2**, construction emissions would not exceed the applicable South Coast AQMD LST's for any criteria pollutant. Therefore, less than significant impacts would occur. **Table 3-4** only shows the results of site preparation activities as this was the only construction activity found to produce emissions above the thresholds.

Table 3-4 Project Localized Construction Emissions – With Mitigation

Construction Activity	Year	Emissions (lbs/day)			
		NO_x	CO	PM_{10}	$PM_{2.5}$
Site Preparation	2022	38.04	25.64	7.23	4.17
	2023	34.03	24.81	7.04	3.99
	Maximum Daily Emissions	**38.04**	**25.64**	**7.23**	**4.17**
	SCAQMD Localized Threshold	303	1,533	10	6
	Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Source: Urban Crossroads 2022a (Appendix 2)

Localized Operational Impacts

The proposed project would include residential and commercial uses. According to SCAQMD LST methodology, LST's would apply to the operational phase of a proposed project, if the project includes stationary sources, or attracts mobile sources that may spend periods queuing and idling at the site. The proposed project does not include such uses, and therefore due to the lack of significant stationary source emissions, analysis of the project's long-term localized emissions is not needed. Impacts would be less than significant.

Carbon Monoxide Hotspots

An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards.

The ambient 1-hr and 8-hr CO concentration within the project study area is estimated to be 0.9 ppm and 0.7 ppm, respectively. Therefore, even if the traffic volumes for the proposed project were double or even triple of the traffic volumes generated at the Long Beach Boulevard and Imperial Highway intersection (3.1 ppm at 1-hour and 9.3 ppm at 8-hour CO concentration), coupled with the on-going improvements in ambient air quality, the project would not be capable of resulting in a CO "hot spot" at any study area intersections. Therefore, project impacts associated with CO "hot spots" are less than significant.

d) Less Than Significant Impact.

The potential for the proposed project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Food processing plants
- Wastewater treatment plants
- Chemicals plants

- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The proposed project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed project's long-term operational activity. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is therefore, considered less than significant. It is expected that project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations. The proposed project would also be required to comply with South Coast AQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed project construction and operational activities would be less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. Compliance with SCAQMD Rules including 402, 403, and 1113.

MITIGATION MEASURES

AQ-1 During the site preparation phase, construction equipment greater than 150 horsepower (hp), the Construction Contractor shall ensure that off-road diesel construction equipment that complies with Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.

Timing/Implementation: During site preparation

Enforcement/Monitoring: City of Wildomar Engineering Department and Planning Department

AQ-2 All actively graded (disturbed) areas within the project site during site preparation activities shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12 percent in maintained for actively graded areas. Moisture content can be verified with use of a moisture probe by the grading contractor.

Timing/Implementation: During site preparation

Enforcement/Monitoring: City of Wildomar Engineering Department and Planning Department

4. Biological Resources

Issues: Would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			✓	
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			✓	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		✓		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?			✓	

TERACOR prepared a MSHCP Consistency Analysis on June 30, 2022 (2022a) for the project which is included as **Appendix 3**. As a companion report to the Consistency Analysis, TERACOR prepared a Habitat Assessment and Focused Burrowing Owl Survey Report on June 20, 2022 (2022b), included as **Appendix 4**.

DISCUSSION

a) Less Than Significant Impact with Mitigation Incorporated. The project site is not within a Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Criteria Cell, as shown in the Riverside County MSHCP Information Map, but is within a Stephens' Kangaroo Rat Plan Fee Area and the MSHCP Fee Area, both of which encompass the City of Wildomar (Riverside County 2022). The MSHCP Consistency Analysis Report by TERACOR evaluated the site's potential to contain habitat for 34 riparian, riverine, and vernal pool species that are covered under the MSHCP. The analysis concluded that none of these species are present on the site nor does the site contain suitable riparian/riverine/vernal pool habitat. The Report also concluded that there is no suitable habitat for vernal pool fairy shrimp (Branchinecta lynchi). Therefore, impacts would be less than significant.

The eastern portion of the project site, APN 376-410-021, is within the Western Riverside County MSHCP burrowing owl survey area (TERACOR 2022a). TERACOR completed an initial habitat assessment on March 16, 2022 and burrow survey on April 11, 2022, in addition to focused surveys on the 10.12-acre project site on April 11, April 27, May 9, and May 24, 2022. No burrowing owls were found during the surveys. However, due to the presence of suitable habitat on the site, burrowing owls could be present on the site at a later date. mitigation measure **BIO-1**, which requires a 30-day pre-construction survey for burrowing owls prior to initial ground-disturbing activities, would be implemented to minimize potential take of burrowing owls. mitigation measure **BIO-1** would reduce impacts to burrowing owls to less than significant.

b) Less than Significant Impact. The site does not contain any Riparian/Riverine resources as defined under Section 6.1.2 of the MSHCP (TERACOR 2022a). TERACOR's analysis evaluated four potential Riparian/Riverine areas on-site but determined that none of the areas contained suitable wildlife or aquatic habitat. Additionally, no features on-site met the criteria of Section 6.1.2 to be considered as a vernal pool (TERACOR 2022a). Therefore, impacts would be less than significant.

c) Less than Significant Impact. There are no areas on the project site that are considered wetlands according to the US Fish and Wildlife Service's National Wetlands Inventory. The analysis conducted by TERACOR determined that one feature on-site, a human created pit which sits atop a large stockpile of dirt, could be subject to ponding during a significant rain event. However, TERACOR determined that it is highly unlikely that this feature would be considered jurisdictional by any local, state or federal agency. Therefore, impacts would be less than significant.

d) Less Than Significant Impact with Mitigation Incorporated. Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Movement corridors may provide favorable locations for wildlife to travel between different habitat areas, such as foraging sites, breeding sites, cover areas, and preferred summer and winter range locations. They may also function as dispersal corridors allowing animals to move between various locations within their range. TERACOR's analysis notes that the proposed project site is highly disturbed and surrounded on four sides by urban development. A small natural area was found north of the site, but it is separated by a block wall and lies above the project site hydrologically (TERACOR 2022a). As previously noted, there is no functional riparian habitat on the site. The site is also not in a mapped

survey area for mammal species or amphibian species under the MSHCP (TERACOR 2022a). Furthermore, the project site is not within any MSHCP core areas, linkages, or wildlife corridors.

TERACOR notes that the project site contains trees and shrubs that can be utilized by nesting birds and raptors. Disturbing or destroying active nests is a violation of the Migratory Bird Treaty Act (MBTA). In addition, nests and eggs are protected under California Fish and Wildlife Code Section 3503. In order to avoid violation of the MBTA and California Fish and Wildlife Code, implementation of mitigation measure **BIO-2** will ensure raptors and other nesting bird species that may or may not be covered under the MSHCP will be protected and impacts will be less than significant.

e) No Impact. The City Wildomar Municipal Code Section 12.08.050, regulates trees within the public right of way. The project site contains no trees within a public right-of-way. There are no other city policies or ordinances protecting biological resources. Therefore, no impact would occur.

f) Less Than Significant Impact. The Western Riverside MSHCP is a habitat conservation plan and natural community conservation plan to which the City of Wildomar is a permittee (i.e., signatory). The project site is located in the Elsinore Area Plan of the MSHCP, but is not located in a Criteria Cell. Since the site is not located in a Criteria Cell, there are no conservation requirements on the property.

The proposed project would be consistent with Sections 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, 6.3.2, Additional Survey Needs and Procedures, and 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface, of the MSHCP. There are no riverine/riparian areas or vernal pools on the site and the site is not within a Criteria Cell. However, project implementation would result in loss of 10.12 acres of semi-natural habitat. These natural and naturalized upland habitat areas would be permanently removed. Impacts to all upland vegetation communities would be mitigated through MSHCP fee payment and SKR-fee payment. With Implementation of standard conditions and requirements, impacts would be less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. As required by Section 3.42.070 of the Wildomar Municipal Code, the project applicant/developer is required to submit fees to the City in accordance with the requirements of the Western Riverside County Multiple Species Habitat Conservation Plan Mitigation Fee.

1. As required by Section 3.43.070 of the Wildomar Municipal Code, the project applicant/developer is required to submit fees to the City in accordance with the requirements of the Stephens' Kangaroo Rat Habitat Conservation Plan Mitigation Fee Area.

MITIGATION MEASURES

BIO-1 The Project applicant/developer shall retain a qualified biologist to conduct a 30-day pre-construction survey for burrowing owls (BUOW). The results of the survey shall be submitted to the City of Wildomar prior to obtaining a grading permit. If BUOW are not detected during the pre-construction survey, no further mitigation is required. If BUOW are detected during the pre-construction survey, the project applicant shall relocate burrowing owls out of harm's way, in consultation with the CDFW. Notification to the CDFW shall occur if burrowing owls are found to be present onsite and the development of a conservation strategy in cooperation with the U/S/ Fish and Service, the CDFW, and the Western Riverside County Regional Conservation Authority

(RCA) shall be conducted. The project applicant/developer and a qualified consulting biologist will be required to prepare and submit for approval a BUOW relocation program. The report shall be submitted to the applicant and the City of Wildomar concurrently.

Timing/Implementation: *Within 30 days prior to construction, Prior to issuance of grading permits*

Enforcement/Monitoring: *City of Wildomar Planning Department*

BIO-2 Prior to vegetation clearance, the Project applicant/developer shall retain a qualified biologist to conduct a pre-disturbance nesting bird survey in accordance with the following:

- The survey shall be conducted no more than three (3) days prior to the initiation of clearance/construction work;
- If pre-disturbance surveys indicate that bird nests are not present or are inactive, or if potential habitat is unoccupied, no further mitigation is required;
- If active nests of birds are found during the surveys, a species-specific no-disturbance buffer zone shall be established by a qualified biologist around active nests until a qualified biologist determines that all young have fledged (i.e., no longer reliant upon the nest).

Timing/Implementation: *Within three (3) days prior to the initiation of clearance/construction work*

Enforcement/Monitoring: *City of Wildomar Planning Department*

5. Cultural Resources

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?				✓
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		✓		
c) Disturb any human remains, including those interred outside of dedicated cemeteries?		✓		

A Cultural Resources Assessment was prepared for the 10-acre Wildomar Crossroads Project by Brian F. Smith and Associates, Inc. (BSA) on November 24, 2021 (see **Appendix 5**). An additional Focused Cultural Resources Survey – Historic Resources Assessment was prepared in on November 22, 2021 by JM Research and Consulting (JM) to supplement the findings made during the initial Cultural Resources Assessment. (See **Appendix 6**).

DISCUSSION

a) No Impact.

Section 15064.5 defines historic resources as resources listed or determined to be eligible for listing by the State Historical Resources Commission, a local register of historical resources, or lead agency. Generally, a resource is considered to be "historically significant" if it meets one of the following criteria:

i. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

ii. Is associated with the lives of persons important in our past;

iii. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

iv. Has yielded, or may be likely to yield, information important in prehistory or history.

The Historic Resources Assessment did not find the site to be eligible for listing in the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR) or for local designation in the Wildomar Municipal Code (JM 2021). The Cultural Resources Assessment indicated that the foundation appeared to be historic, however, based on aerial photographs, the foundation does not meet the age threshold to qualify as historic (BSA 2021a). The Cultural Resources Survey conducted for this project identified a single-family house built in a simple ranch style as well as several ancillary structures, remnant fencing, and cement foundation on the westernmost portion of the proposed project site (BSA

2021a). Additional historic and building specific archival research under the Historic Resources Assessment found that these structures were constructed in the 1960s but not associated with individuals who have figured prominently in history (JM 2021). Therefore, the properties are not strongly associated with events that have made a significant contribution to the broad patterns of our national or state history or with significant persons in our past (JM 2021). Although unaltered, the residence and ancillary buildings are of common design and construction and do not embody the distinctive characteristics of a type, period, or represent the work of a master, or possess high artistic value (JM 2021). In addition, the results of the study have not yielded, or predicted the likelihood of the previously graded and disturbed property to yield information important in history or prehistory (JM 2021).

b) Less Than Significant Impact with Mitigation Incorporated. Archaeological resources are prehistoric or historic evidence of past human activities, including structural ruins and buried resources.

The Cultural Resources Assessment concluded that there are no known archaeological resources on the project site (BSA 2021a). However, eight cultural resources have been recorded within a one-mile radius of the site (BSA 2021a). Due to construction and ground-disturbing activities like clearing, excavation, and grading associated with building the proposed project, there is potential for archaeological resources to be discovered. Implementation of mitigation measures **TRI-1** through **TRI-7** (see V. 19, Tribal Cultural Resources) would ensure that any archaeological resources discovered on the project site would be properly managed by having a qualified archaeologist to monitor construction and grading activities, complying with provisions outlined in the Tribal Cultural Resources Treatment and Monitoring Agreement, and halting construction within 100 feet of discovered resources in the event that they are uncovered. These actions would ultimately reduce impacts to a less than significant level.

c) Less Than Significant Impact with Mitigation Incorporated. Construction activities associated with project implementation would require grading and excavation of the site below the surface. Pursuant to California Health and Safety Code Section 70520.5, in the event of an accidental discovery or recognition of any human remains on the site, no further excavation or disturbance of the site shall be permitted until the coroner of the county is contacted and has conducted an investigation into the circumstances, manner, and cause of any death, and recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes or has reason to believe the human remains to be those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. The project would comply with existing law, and potential impacts to human remains is less than significant with the implementation of mitigation measures **CUL-1** and **TRI-7**.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

CUL-1 Human Remains. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b)

remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

Timing/Implementation:	*During any ground-disturbing construction activities*
Enforcement/Monitoring:	*City of Wildomar Engineering Department and Planning Department*

6. Energy

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			✓	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			✓	

Urban Crossroads prepared calculations of the proposed project's energy usage in a memorandum dated January 18, 2022 (2022b) which are included as **Appendix 7.**

a) Less Than Significant Impact.

Construction

During construction, the project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Construction of the proposed project would require the use of construction equipment for grading, hauling, and building activities. Electricity use during construction would vary during different phases of construction—construction equipment during grading would be gas powered or diesel powered, and the later construction phases would require electricity-powered equipment, such as interior construction and architectural coatings. Construction also includes the vehicles of construction workers traveling to and from the project site and haul trucks for the export of materials from site clearing. The construction phase of the project is expected to use 96,082 kilowatt-hours (kWh) of electricity.

The surrounding area is already served by electricity provided by Southern California Edison (SCE) and natural gas infrastructure provided by the Southern California Gas Company. The proposed project would connect to the existing gas lines to the project site.

The construction contractors would minimize idling of construction equipment during construction as required by state law. These required practices would limit wasteful and unnecessary electrical energy consumption. Furthermore, there are no unusual project characteristics that would necessitate the use of construction equipment that is less energy efficient than at comparable construction sites in other parts of the state. Therefore, the proposed short-term construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption.

Transportation

Transportation energy use depends on the type and number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction would come from the

transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel and/or gasoline. The use of energy resources by these vehicles would fluctuate according to the phase of construction and would be temporary. Construction equipment during grading would be gas-powered or diesel-powered, and the later construction phases would require electricity-powered equipment. The project is expected to use 49,302 gallons of fuel from the use of construction equipment as well as from construction worker commutes. Construction techniques, equipment and materials are consistent with other construction in the City. Impacts related to transportation energy use during construction would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Impacts would not be significant.

Operation

Operational use of energy would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems, security, and control center functions; use of on-site equipment and appliances; and indoor, outdoor, and parking lot lighting. Additionally, the proposed project would result in residential and commercial uses and would not result in an excessive consumption of energy compared to other similar uses.

Electricity

The project is expected to use approximately 1.85 million kilowatt-hours per year (kWh/year) to serve operational demands (Urban Crossroads 2022b). The increased demand is expected to be adequately served by the existing SCE electrical facilities. SCE provided over 103,597 gigawatt-hours (GWh) of electricity to its customers in 2020 and total electricity demand in SCE's service area is forecast to increase by approximately 12,000 GWh between 2015 and 2026 (CEC 2020; CEC 2018). The increase in electricity demand from the project would represent an insignificant percent increase compared to overall demand in SCE's service area. Therefore, projected electrical demand would not significantly impact SCE's level of service. Prior to final building plan submittal, the project applicant would provide project plans to SCE to prepare a Method-of-Service Study to determine exact location of electrical connections at the site and establish estimated electricity demand. Additionally, because the proposed project would be subject to the more stringent 2019 Title 24 standards, the project's electricity demand would not result in significant impacts. Therefore, impacts are less than significant.

Natural Gas

The project is expected to use approximately 4.58 million kilo-British thermal units per year (KBTU/year) of natural gas during its operational phase (Urban Crossroads 2022b). The increased demand is expected to be adequately served by the existing Southern California Gas facilities. The project would construct new facilities at the project site that would result in an increase in gas demands. The use of natural gas would be limited to building heating. The proposed project would not result in a significant impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Renewable Energy

Project development would not interfere with achievement of the 60 percent Renewable Portfolio Standard set forth in SB 100 for 2030 or the 100 percent standard for 2045. These goals apply to SCE and

other electricity retailers. As electricity retailers reach these goals, emissions from end user electricity use will decrease from current emission estimates.

Vehicle Miles Traveled and Fuel Consumption

Transportation energy use depends on the type and number of trips, vehicle miles traveled (VMT), fuel efficiency of vehicles, and travel mode. Transportation energy used during operation of the site would come from delivery vehicles, maintenance vehicles, and residents that would primarily use diesel fuel and/or gasoline. The use of energy resources by these vehicles would be temporary and would fluctuate throughout the lifespan of the project. The Traffic Impact Analysis prepared for the proposed project (see **Appendix 16**), shows that the proposed project is expected to generate a net total of 4,551 two-way trips per day with 282 AM peak hour trips and 404 PM peak hour trips. Therefore, the impacts are considered less than significant.

b) Less Than Significant Impact. The City of Wildomar is within SCAG's 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals.

The RTP/SCS sets forth a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement) by reducing fuel consumption. The RTP/SCS is meant to provide individual jurisdictions with growth strategies that, when taken together, achieve the regional GHG emissions reduction targets. Specifically, the SCS distributes growth forecast data to transportation analysis zones for the purpose of modeling performance. As described in Section V.14, Population and Housing, the proposed project does not exceed the growth projections described in SCAG's RTP/SCS. Additionally, as a mixed use project with transit access, the proposed project supports the guiding principles of the RTP/SCS, including the goal to encourage the development of diverse housing types in areas that are supported by multiple transportation options. The proposed project would not obstruct the implementation of the RTP/SCS.

The City of Wildomar does not have its own renewable energy plan or energy efficiency plan; however, the City does encourage the use of renewable energy via solar panels, recycling, etc. The proposed project would be subject to 2019 Title 24, Part 6, standards, which sets standards that improve energy efficiency of newly constructed buildings. Additionally, all contractors and waste haulers are required to comply with the Countywide Integrated Waste Management Plan, which requires a minimum diversion of 50 percent of waste project materials from disposal. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

7. Geology and Soils

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.		✓		
ii) Strong seismic ground shaking?		✓		
iii) Seismic-related ground failure, including liquefaction?		✓		
iv) Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?		✓		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?		✓		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?			✓	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓		

Leighton and Associates, Inc. (Leighton) prepared a Geotechnical Report on October 19, 2021 (revised March 30 2022), for the proposed project which is included as **Appendix 8** (Leighton 2022). Brian F. Smith and Associates, Inc. (BSA) prepared a Paleontological Survey in November 24, 2022 included as **Appendix 9**.

DISCUSSION

a)

i) **Less Than Significant Impact with Mitigation Incorporated**. According to the Geotechnical Report, the site is in a seismically active region. The site is not situated within a State of California designated "Alquist-Priolo" Earthquake Fault Zone. The project site is located approximately 0.63 miles northeast of the closest Alquist-Priolo Earthquake Fault Zone (Leighton 2022). However, the project site is located within a mapped Riverside County Fault Hazard zone. Previous mapping on adjacent properties has identified an earthquake fault in the northeastern portion of this site (Leighton 2022). As presented on the conceptual site plan (Figure 2 in **Appendix 8**), habitable buildings are set back in excess of 50 feet from the mapped trace of the identified fault per the approved fault hazard report (Leighton 2022). Compliance with seismic design criteria contained in the California Building Code (CBC) would minimize impacts to the extent feasible. Additionally, compliance with mitigation measure **GEO-1**, which states that the project applicant shall incorporate all recommendations made in the geotechnical report, or directed by the geotechnical engineer such as, temporary excavations, grading, utility trench backfill, foundation and concrete slab-on-grade, concrete flatwork, conventional retaining walls, lateral loading, preliminary pavement, will be implemented as part of the building permit and inspection requirements of the City which would reduce impacts to less than significant.

ii) **Less Than Significant Impact with Mitigation Incorporated.** The project site in a seismically active region. Strong ground shaking due moderate to severe earthquakes can be expected at the site within the lifetime of the project. Structures must also be designed and constructed to resist the effects of seismic ground motions as outlined in the 2019 California Building Code Section 1613. After implementation of mitigation measure **GEO-1,** which states that the project applicant shall incorporate all recommendations made in the geotechnical report, the impacts will be less than significant.

iii) **Less Than Significant Impact with Mitigation Incorporated.** The site is mapped within a low to moderate Riverside County Liquefaction Hazard zone (Leighton 2022). Based on the results of subsurface borings, observations and the geotechnical recommendations made during and within

the geotechnical report, the loose near surface soils typically most susceptible to liquefaction on the site will be completely removed and recompacted during remedial grading. Therefore, implementation of **GEO-1** would reduce risk of liquefaction on site and make impacts less than significant.

iv) **No Impact.** Due to the relatively moderate relief across the site and anticipated graded slope heights, the risk of deep-seated slope failure on this site or adjacent sites is considered low. Additionally, as seen in Figure S-6 of the General Plan, no landslides have been mapped to the site. Therefore, no impact would occur.

b) Less Than Significant Impact with Mitigation Incorporated. The anticipated earthwork associated with the proposed site improvements necessitate the removal or burial of the existing surface soils present on the site during grading activities. Surface soils may be subject to erosion where exposed during grading. The City routinely requires the submittal of detailed erosion control plans with any grading plans to comply with the state water quality regulations. Since this project involves clearing, grading, or excavation that causes soil disturbance of one or more acres, it is subject to the provisions of the National Pollutant Discharge Elimination System (NPDES) State General Permit (Order No. R8-2010-0033). Furthermore, the project is required to prepare and comply with an approved Stormwater Pollution Prevention Plan (SWPPP) that provides a schedule for the implementation and maintenance of erosion control measures and a description of the erosion control practices, including appropriate design details and a time schedule.

Construction activities related to the proposed project would be subject to compliance with the CBC and would include best management practices (BMPs). Additionally, the SWPPP would consider the full range of erosion control BMPs, including any additional site-specific and seasonal conditions. BMPs may include but are not limited to covering of the disturbed or stockpiled soil, use of a dust-inhibiting material, landscaping, use of straw and jute to slow and channelize stormwater runoff, hydroseeding, and grading in a pattern than slows stormwater flow and reduces the potential for erosion. Compliance with BMPs is required by the federal and state Clean Water acts.

The State General Permit also requires that those implementing SWPPPs meet prerequisite qualifications that would demonstrate the skills, knowledge, and experience necessary to implement such plans. NPDES requirements would significantly reduce the potential for substantial erosion or topsoil loss to occur in association with new development. Additionally, as part of the approval process, prior to grading plan approval, the project applicant will be required to comply with Wildomar Municipal Code Chapter 13.12, Stormwater Drainage System Protection, which establishes requirements for stormwater and non-stormwater quality discharge and control that require new development or redevelopment projects to control stormwater runoff by implementing appropriate BMPs to prevent the deterioration of water quality. Water quality features intended to reduce construction-related erosion impacts will be clearly denoted on the grading plans for implementation by the construction contractor. For a discussion of erosion and runoff impact post-construction, see Section V.10, Hydrology and Water Quality.

As indicated by the geotechnical report, after all undocumented fill is removed and native materials are uncovered, all topsoil, alluvium, colluvium, and highly weathered bedrock with the project site or any areas to receive engineered fill should be removed to expose competent native materials. Additionally,

proper vegetative cover is recommended for all completed slopes to reduce the potential for significant slope erosion. Compliance with the recommendations of the geotechnical report for cut and fill during construction (mitigation measure **GEO-1**) would reduce impacts to less than significant.

Compliance with the CBC and the NPDES would minimize effects from erosion. Additionally, compliance with Wildomar Municipal Code Chapter 13.12 and NPDES requirements would result in less than significant impacts related to soil erosion. Therefore, project impacts to erosion and topsoil would be mitigated to less than significant.

c) Less Than Significant Impact with Mitigation Incorporated. See issues a.iii) and aiv). The project site is not at risk for landslide, collapse, or rockfall due to the relatively level terrain of the site and surrounding developed properties. According to Figure S-7 in the General Plan, the site is located within a documented subsidence area. However due to previous grading activities on the site, the geotechnical report considers the potential for differential subsidence and ground fissuring on the site to be low. Implementation of CBC and other related construction standards apply seismic requirements and address certain grading activities. The CBC includes common engineering practices requiring special design and construction methods that reduce or eliminate potential impacts related to unstable soils. Compliance with CBC regulations and implementation of mitigation measure **GEO-1** would ensure adequate design and construction of building foundations to resist soil movement. Impacts are less than significant with mitigation incorporated**.**

d) Less Than Significant Impact with Mitigation Incorporated. The soils found on site are considered to possess a low expansion potential (Leighton 2022). Undocumented fill soils were also found onsite during the Phase Site Assessment, however these will be removed and replaced with suitable fill soils during grading operations, as per the recommendations made in the geotechnical report. Implementation of mitigation measure **GEO-1** will ensure compliance with all additional applicable recommendations in the geotechnical report and reduce impacts of expansive soils to less than significant.

e) No Impact. The proposed project will connect to the Elsinore Valley Municipal Water District (EVMWD) and does not propose the use or construction of septic tanks or an alternative wastewater disposal system. Therefore, no impact would occur.

f) Less Than Significant Impact with Mitigation Incorporated. Paleontological resources are fossilized remains of past life on earth such as bones, shells, leaves, tracks, burrows, and impressions. The paleontological review did not find any known fossil localities within the project boundaries during a paleontological literature review and collections and records search. However, the records search did confirm the existence of potentially fossiliferous Pleistocene Pauba Formation ("Qps") at the project site. The occurrence of terrestrial vertebrate fossils from the Pauba Formation is well-documented. The "High" paleontological sensitivity rating assigned to this formation for yielding paleontological resources supports the recommendation that paleontological monitoring be implemented during mass grading and excavation activities in these deposits to mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources. Full-time monitoring of undisturbed Pauba Formation at the project is warranted starting at the surface. Mitigation measure **GEO-2** will facilitate and monitor these actions, reducing impacts to less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. The project shall comply with the California Building Code and Wildomar Municipal Code Chapter 13.12, Stormwater Drainage System Protection.
2. The project shall comply with the geotechnical report's recommendation to set back all habitable buildings in excess of 50 feet from the mapped trace of the identified fault per the approved fault hazard report.

MITIGATION MEASURES

GEO-1 The project applicant/developer shall incorporate the recommendations of the Geotechnical Report prepared Leighton and Associates, Inc. (**Appendix 8**) into project plans related to the proposed project. The project's building plans shall demonstrate that they incorporate all applicable recommendations of the Geotechnical Report and comply with all applicable requirements of the latest adopted version of the California Building Code.

Timing/Implementation: *During building plan check, prior to any ground-disturbing construction activities*

Enforcement/Monitoring: *City of Wildomar Planning Department and Building and Safety Department*

GEO-2 A paleontological grading observation schedule by a Certified Paleontologist shall be maintained when grading in bedrock units to further evaluate the fossil resources of the site. Paleontological monitoring may be reduced upon observations and recommendations of the professional-level project paleontologist. Salvage operations shall be initiated by the Certified Paleontologist and coordinated with the developer if other significant concentrations of fossils, as determined by the Certified Paleontologist, are encountered. Any paleontological resources shall be provided for curation at a local curation facility, or any other local museum or repository willing and able to accept and house the resource to preserve for future scientific study.

Timing/Implementation: *During ground-disturbing construction activities*

Enforcement/Monitoring: *City of Wildomar Planning Department and Building and Safety Department*

8. Greenhouse Gas Emissions

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

A Greenhouse Gas Emissions Analysis was prepared by Urban Crossroads on January 18, 2022. It was peer reviewed by Placeworks on March 11, 2022 and revised on April 13, 2022 (2022c) (see **Appendix 10**). The analysis was prepared to evaluate the potential for the proposed project to contribute to greenhouse gas emissions.

DISCUSSION

a) Less Than Significant Impact. According to **Table 8-1**, Proposed Project GHG Emissions, the proposed project would result in a net total of approximately 2,833.80 metric tons of CO_2e per year. This would not exceed the South Coast AQMD and City's screening threshold of 3,000 $MTCO_se$/year. Therefore, the proposed project would not have the potential to result in a cumulatively impact with respect to GHG emissions. Therefore, impacts would be less than significant.

Table 8-1 Proposed Project GHG Emissions

Emission Source	Emissions (MT/yr)			
	CO_2	**CH_4**	**N_2O**	**Total CO_2e**
Annual construction-related emissions amortized over 30 years	20.07	3.81E-03	1.30E-03	28.55
Area Source	38.56	0.00315	0.00066	38.84
Energy Source	573.98	0.03	0.00785	577.13
Mobile Source	1,917.05	0.17	0.13	1,960.36
Waste	62.51	3.69	0.00	154.87
Water Usage	57.40	0.52	0.01	74.04
Total CO_2e (All sources)	**2,833.80**			

Source: Urban Crossroads 2022c (Appendix 10)

b) Less Than Significant Impact.

SB 32/2017 Scoping Plan Consistency

The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table 8-2, 2017 Scoping Plan Consistency Summary, summarizes the proposed project's consistency with the 2017 Scoping Plan. As summarized, the proposed

project would not conflict with any of the provisions of the Scoping Plan and in fact supports seven of the action categories.

Table 8-2 2017 Scoping Plan Consistency Summary		
Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	**Consistent.** The proposed Project would use energy from Southern California Edison (SCE), which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources. The proposed project would not interfere with or obstruct SCE energy source diversification efforts.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		**Consistent**. The Project would be constructed in compliance with current California Building Code requirements. Specifically, new buildings must achieve compliance with 2019 Building and Energy Efficiency Standards and the 2019. California Green Building Standards requirements. The proposed Project includes energy efficient field lighting and fixtures that meet the current Title 24 Standards throughout the Project Site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly-owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		**Consistent.** The proposed project would be constructed in compliance with current California Building Code requirements. Specifically, new buildings must achieve compliance with 2019 Building and Energy Efficiency Standards and the 2019 California Green Building Standards requirements. The proposed project includes energy efficient lighting and fixtures that meet the current Title 24 Standards throughout the project site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emissions and plug-in hybrid light-duty EV by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation	**Not applicable.** This measure is not within the purview of this project.

Table 8-2 2017 Scoping Plan Consistency Summary		
Action	Responsible Parties	Consistency
At least 4.2 million zero emission and plug-in hybrid light-duty EV by 2030.	(Caltrans), CEC, OPR, Local Agencies	**Not applicable.** This measure is not within the purview of this project.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		**Not applicable.** This measure is not within the purview of this project.
Medium- and Heavy-Duty GHG Phase 2.		**Not applicable.** This measure is not within the purview of this project.
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, met the optional heavy-duty low-NO_x standard.		**Not applicable.** This measure is not within the purview of this project**.**

Table 8-2 2017 Scoping Plan Consistency Summary		
Action	Responsible Parties	Consistency
Last Mile Delivery: New regulation that would result in the use of low NO_x or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3-7 truck sales in local fleets starting in 2020, increasing to 10% in 2025 and remaining flat through 2030.		**Not applicable.** This project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.

Table 8-2 2017 Scoping Plan Consistency Summary		
Action	Responsible Parties	Consistency
Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		**Not applicable.** This project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	**Not applicable.** The project is not within the purview of SB 375 and would therefore not conflict with this measure.
By 2019, adjust performance measures used to select and design transportation facilities		
Harmonize project performance with emissions reductions and increase competitiveness of transit active transportation modes (e.g., via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GO-Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	**Not applicable.** Although this is directed towards CARB and Caltrans, the proposed project would be designed to promote and support pedestrian activity on-site and in the project site area by providing pedestrian access from the residential section to the shopping center**.**

Table 8-2 2017 Scoping Plan Consistency Summary		
Action	Responsible Parties	Consistency
By 2019, develop pricing policies to support low-GHG transportation (e.g. low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrnas, CTC, OPR, SGC, CARB	**Not applicable.** This project is not responsible for developing pricing policies to support low-GHG transportation.
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz.	**Consistent**. When adopted, this measure would apply to all trucks accessing the project site, this may include existing trucks or new trucks that are part of the statewide goods movement sector.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		**Not applicable.** This measure is not within the purview of this project**.**
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB	**Consistent.** When adopted, this measure would apply to all fuel purchased and used by the project in the state.
Implement the Short-Lived Climate Pollutant Strategy (SLPS) by 2030		
40% reduction in CH_4 and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	**Consistent.** When adopted, the project would be required to comply with this measure and reduce SLPS accordingly.
50% reduction in black carbon emissions below 2013 levels.		**Not applicable.** This measure is not within the purview of this project.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	**Consistent.** The State of California and the City of Wildomar have implemented mandatory organic waste recycling applicable to commercial and multi-family residential uses pursuant to SB 1383. This project will be required to comply with these organic waste recycling requirements

Table 8-2 2017 Scoping Plan Consistency Summary		
Action	Responsible Parties	Consistency
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	**Consistent.** When adopted, the project would be required to comply with the Cap-and-Trade Program if it generates emissions from sectors covered by Cap-and-Trade.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink.		
Protect land from conversion through conversion easements and other incentives.	CNRA, Departments within CDFA, CalEPA, CARB	**Not applicable.** This measure is not within the purview of this project.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity.		**Not applicable.** This measure is not within the purview of this project.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments.		**Not applicable.** This measure is not within the purview of this project.
Establish scenario projections to serve as the foundation for the Implementation Plan.		**Not applicable.** This measure is not within the purview of this project.

Table 8-2 2017 Scoping Plan Consistency Summary		
Action	Responsible Parties	Consistency
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018.	CARB	**Not applicable.** This measure is not within the purview of this project.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CALFIRE), CalEPA	**Not applicable.** This measure is not within the purview of this project.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State and Local Agencies	**Not applicable.** This measure is not within the purview of this project.
Source: Urban Crossroads 2021c		

As shown above, the proposed project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the proposed project. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030.

Consistency with WRCOG Subregional Climate Action Plan (CAP)

The City of Wildomar has not adopted the WRCOG Subregional Climate Action Plan (CAP) but uses the provisions of the CAP to evaluate development projects. The specific goals and actions that are applicable to the proposed project include those pertaining to energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle miles traveled. Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the CAP would have a less than significant impact on climate change. The proposed project would be required to include all mandatory green building measures for new developments under the CALGreen Code, which would require that the new buildings reduce water consumption, employ building commissioning to increase building system materials. In addition, the City requires that all landscaping comply with water efficient landscaping requirements. The implementation of these stricter building and appliance standards would result in water, energy, and construction waste reductions for the proposed project. The proposed project would be compliant with the goal and objectives set forth in the WRCOG's Subregional CAP with implementation of applicable requirements of California building Code Title 24 and the CALGreen Code. Therefore, the proposed project would not conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

9. Hazards and Hazardous Materials

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		✓		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			✓	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			✓	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?			✓	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			✓	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?		✓		

A Phase I Environmental Site Assessment Update (ESA) was prepared by Leighton and Associates, Inc. (Leighton) on July 22, 2021. which can be found in **Appendix 11**.

DISCUSSION

a) Less Than Significant Impact. Construction activities at the project site would involve the use of hazardous materials such as gasoline fuels, asphalt, lubricants, toxic solvents, pesticides, and herbicides which would be transported to and from the site and be present temporarily during construction. These potentially hazardous materials would not be used in sufficient enough quantities to pose a significant hazard to public health and safety or the environment, and their use during construction would be short-term. Operation of the project would involve the use of small amounts of hazardous materials for cleaning and maintenance purposes, such as cleaners, solvents, paints, degreasers, pesticides, fertilizers, and other custodial products. The materials used and stored on site would be clearly labeled and safely stored in compliance with state and federal requirements.

The transport, use, storage, and disposal of these materials would comply with existing regulations established by several agencies, including the Department of Toxic Substances Control, the US Environmental Protection Agency (EPA), the US Department of Transportation, and the Occupational Safety and Health Administration. Moreover, any businesses that transport, generate, use, and/or dispose of hazardous materials in Wildomar are subject to existing local hazardous materials regulations, such as those implemented by the Riverside County Department of Environmental Health which is the Certified Unified Program Agency (CUPA) for Riverside County. This program is responsible for consolidating, coordinating, and making consistent the administrative requirements, permits, inspections, and enforcement activities of state standards regarding the transportation, use, and disposal of hazardous materials in Riverside County, including Wildomar. Compliance with federal, state, and local laws and regulations would result in a less than significant impact.

b) Less Than Significant Impact with Mitigation Incorporated. The principal findings of the Phase I ESA specify four Recognized Environmental Conditions (RECs) or potential RECs present at the site.

1. An investigation of the site located dozens of stockpiles of soil of unknown origin. The Phase I ESA recommends that samples from these materials be analyzed for TPH, Title 22 Metals, OCPs, VOCs and PCBs. The implementation of mitigation measure **HAZ-1** would reduce impacts to less than significant.

2. As a result of former chicken ranch operations present at the site, methane may be present in the subsurface. The report notes that this is not a REC but that local regulations require post-grading sampling for methane in former livestock operation areas and that possible mitigation measures may be required depending on the sampling results. The implementation of mitigation measure **HAZ-2** would reduce impacts to less than significant.

3. The report found that the southeastern and northeastern portions of the site formerly hosted agricultural uses, indicating possible concern for the presence of pesticides. Although the project's current plans are to develop this portion of the site with commercial/retail uses instead of residential use, the implementation of mitigation measure **HAZ-1** would reduce impacts to less than significant.

4. Based on the age of the current and dilapidated structures on the western portion of the site, the report indicates that lead-based paint (LBP) and asbestos-containing materials (ACMs) are likely present. Project-related demolition that has the potential to expose workers and the public to LBP and ACMs would be conducted in accordance with applicable regulations, including, but not limited to:

    - South Coast Air Quality Management District's Rule 1403
    - California Health and Safety Code (Section 39650 et seq.)
    - California Code of Regulations (Title 8, Section 1529)
    - California Occupational Safety and Health Administration Regulations (California Code of Regulations, Title 8, Section 1529 [Asbestos] and Section 1532.1 [Lead])
    - Code of Federal Regulations (Title 40, Part 61 [asbestos], Title 40, Part 763 [asbestos], and Title 29, Part 1926 [asbestos and lead])

As described under criterion V.9.a, above, construction and operation of the proposed project would involve the transport, storage and use of hazardous materials on the site including common cleaning substances, building maintenance products, lubricants, paints, solvents, herbicides, pesticides, fertilizers and fuels. An impact could occur if construction and operation of the proposed project creates conditions where these hazardous materials could easily contaminate surrounding soil, water, or air. The most likely scenarios would be from rainwater runoff spreading contaminated waste. However, construction activities would be conducted in accordance with a Stormwater Water Pollution Prevention Plan (SWPPP) as part of the National Pollutant Discharge Elimination System (NPDES) permit, discussed further in Section 10, Hydrology and Water Quality, below. While the risk of exposure to hazardous materials cannot be eliminated, adherence to existing regulations would ensure compliance with safety standards related to the use and storage of hazardous materials and with the safety procedures mandated by applicable federal, state, and local laws and regulations. Compliance with these regulations, as well as the implementation of mitigation measure **HAZ-1** and **HAZ-2**, would ensure that risks resulting from the routine transportation, use, storage, or disposal of hazardous materials or hazardous wastes associated with the proposed project and the potential for accident or upset is reduced to a less-than-significant level.

c) Less Than Significant Impact. There are no schools within a quarter mile of the site. The nearest school to the project site is Ronald Reagan Elementary, approximately 0.4-mile north of the site. The proposed project would not involve the storage, handling, or disposal of hazardous materials in sufficient quantities that would pose a significant risk to the public. Therefore, impacts would be less than significant.

d) Less Than Significant Impact. The project site is not included on a list of hazardous materials databases compiled by the California Department of Toxic Substances Control (DTSC) or the State Water Resources Control Board (SWRCB) (DTSC 2022; SWRCB 2022). The database search performed during the Phase I ESA did not locate the site on any hazardous material site lists. The report notes, however, that the site is adjacent to two gas stations on the properties east and west of the site off of Clinton Keith Road

(Leighton 2021). The project site is approximately 0.46-mile northwest from the nearest Leaking Underground Storage Tank (LUST) Cleanup Site at 36485 Inland Valley Drive, the Inland Valley Regional Medical Center. However, as of October 10, 2006, this case has been closed and completed. Therefore, impacts are considered less than significant.

e) Less Than Significant Impact. The project site is not located within any airport land use plan. The closest public airport is French Valley Airport, which is located approximately 7 miles east of the project site. Given the distance and because the project is not in the airport land use plan area for French Valley Airport, there is no impact.

f) Less Than Significant Impact. Access to the project site will be available via three driveways extending from Catt Road on the southwest corner of the site. Additionally, the project will include four entrances/exits to site from Wildomar Trail. Construction will take place within the project site; no roadway closures are anticipated. If roadway closure(s) or reduction in access/capacity is necessary during construction (i.e., to connect to water, sewer, or utilities), the City requires that the applicant submit appropriate plans for review prior to the issuance of a building permit. Adherence to these requirements would ensure that the project would not have a significant impact on emergency response and evacuation plans.

g) Less Than Significant With Mitigation Incorporated. California Government Code Chapter 6.8 directs the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of very high fire hazard severity within Local Responsibility Areas (LRA). Mapping of the areas, referred to as Very High Fire Hazard Severity Zones (VHFHSZ), is based on data and models of potential fuels over a 30- to 50-year time horizon and their associated expected fire behavior and expected burn probabilities, which quantifies the likelihood and nature of vegetation fire exposure to buildings. LRA VHFHSZ maps were initially developed in the mid-1990s and are now being updated based on improved science, mapping techniques, and data. In 2008, the California Building Standards Commission adopted California Building Code Chapter 7A requiring new buildings in Very High Fire Hazard Severity Zones to use ignition-resistant construction methods and materials.

The eastern and western portions of the City of Wildomar have been designated Very High Fire Hazard Severity Zones. The project site is within a VHFHSZ within the LRA (CALFIRE 2009). Development on the project site would be subject to compliance with the 2019 California Building Code (or the most current version) and the 2019 edition of the California Fire Code (or the most current version). The 2019 California Fire Code (Part 9 of Title 24 of the California Code of Regulations) includes Section 4905.2, Construction Methods and Requirements within Established Limits. Fire Code Chapter 49 cites specific requirements for wildland-urban interface areas that include, but are not limited to, providing defensible space and hazardous vegetation and fuel management. Wildomar is covered under the Riverside County Operational Area Emergency Operations Plan (2006) and the Riverside County Operation Area Multi-Jurisdictional Local Hazard Mitigation Plan (2012). These plans provide guidance to effectively respond to any emergency, including wildfires. In addition, all proposed construction is required to meet minimum standards for fire safety, and mitigation measures **HAZ-3** and **HAZ-4,** which require conformance with the

California Building Code and Fire Code, would be implemented. Therefore, impacts are considered less than significant with mitigation incorporated.

STANDARD CONDITIONS AND REQUIREMENTS

1. City of Wildomar Municipal Code Chapter 8.28, *Fire Code*, requires compliance with the 2016 California Building Code (or most current version) and the 2016 edition of the California Fire Code (Part 9 of Title 24 of the California Code of Regulations).

2. City of Wildomar Municipal Code Chapter 8.28, *Fire Code*, requires adherence to California Fire Code Chapter 49, which cites specific requirements for wildland-urban interface areas.

MITIGATION MEASURES

HAZ-1 Prior to the development of the site, representative sampling of the soil stockpiles shall be conducted. Soil samples shall be analyzed by a laboratory licensed with the Environmental Laboratory Accreditation Program [ELAP] for total petroleum hydrocarbon chains by EPA Method 8015M, Title 22 Metals by EPA Method 6010B/7471A, organochlorine pesticides by EPA Method 8081A, volatile organic compounds by EPA Method 8260B/5035 and polychlorinated biphenyls by EPA Method 8082. During stockpile testing, a soil sample shall be collected from the area where an orchard may have been located and tested for organochlorine pesticides to assess for residual pesticides**.** If the results of the soil testing show chemical levels are below EPA Region 9 or DTSC screening levels for residential land use, grading or excavation may proceed accordingly. Remediation and/or removal of contaminated soils shall be made prior to development, if chemical levels are above screening levels. Remediation shall be made in coordination with the local health department, SCAQMD, the California Department of Toxic Substances Control, the U. S. Environmental Protection Agency or other regulatory agencies and in compliance with established residential screening levels.

Timing/Implementation:	*Prior to site development*
Enforcement/Monitoring:	*City of Wildomar Building Department, Local Health Department, SCAQMD, California Department of Toxic Substances Control, U.S. Environmental Protection Agency*

HAZ-2 After grading is completed, but before construction begins, the proponent shall install soil gas probes with a 100-foot grid spacing in the footprints of the proposed structures, at depths of 5 feet below ground surface and 15 feet below ground surface at each location. Methane shall be tested from the probes with a properly calibrated hand-held device with a detection limit of no greater than 500 ppmv, or via a laboratory licensed with ELAP by ASTM Method 1946D, or a combination of the two. In addition, calibrated pressure gauges such as Magnehelic gauges or equivalent with a range of 0-10 inches of water pressure to a range of 0-100 inches of water pressure shall be used on each probe. If methane levels in probes are below 10 percent of the Lower Explosive Limit (10 percent LEL or 5,000 ppmv), the project could proceed without further action. For areas of the site that have methane concentrations at or exceeding 10 percent LEL or

have pressures exceeding 3 inches of water, further testing shall be implemented to determine if a methane mitigation system is necessary. If additional weekly testing shows that methane concentrations consistently exceed 10 percent LEL or have pressures exceeding 3 inches of water over a period of 30 days and a plot of the resulting data does not show a downward trend in concentrations or pressures, then a methane mitigation system shall be incorporated into the building plans for the structures where the elevated concentrations and/or pressures were observed. If there is a downward trend but the concentrations are still above 10 percent LEL or have pressures above 3 inches of water, then additional testing past 30 days may be requested to determine if concentrations and pressures subside below the action levels.

Timing/Implementation: *After site grading but prior to construction*

Enforcement/Monitoring: *City of Wildomar Building Department, Local Health Department, SCAQMD, California Department of Toxic Substances Control, U.S. Environmental Protection Agency*

HAZ-3 Prior to the issuance of building permits, the project applicant/developer shall demonstrate, to the satisfaction of the City Building Official and the Riverside County Fire Chief, compliance with the 2019 California Building Code (or the most recent edition) (Part 2 of Title 24 of the California Code of Regulations) and the 2019 California Fire Code (or the most recent edition) (Part 9 of Title 24 of the California Code of Regulations), including those regulations pertaining to materials and construction methods intended to mitigate wildfire exposure as described in the 2019 California Building Code and California Residential Code (or most recent edition); specifically California Building Code Chapter 7A; California Residential Code Section R327; California Residential Code Section R337; California Referenced Standards Code Chapter 12-7A; and California Fire Code Chapter 49.

Timing/Implementation: *Prior to issuance of building permits*

Enforcement/Monitoring: *City of Wildomar Building Department and Riverside County Fire Department*

HAZ-4 Prior to the issuance of a certificate of occupancy, the applicant shall demonstrate, to the satisfaction of the City Building Official and the County Fire Chief, compliance with the vegetation management requirements prescribed in California Fire Code Section 4906 and California Government Code Section 51182.

Timing/Implementation: *Prior to issuance of certificate of occupancy*

Enforcement/Monitoring: *City of Wildomar Building Department and Riverside County Fire Department*

10. Hydrology and Water Quality

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			✓	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in a substantial erosion or siltation on- or off-site;			✓	
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			✓	
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			✓	
iv) impede or redirect flood flows?			✓	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			✓	

The following analysis is based on the Project Specific Water Quality Management Plan (WQMP) prepared by DRC Engineering, Inc. on November 29, 2021 (revised April 2, 2022) and is included as **Appendix 12** (DRC 2022a), and the Preliminary Hydrology Report by DRC Engineering, Inc. dated April 2, 2022 and included as **Appendix 13** (DRC 2022b) in this Initial Study.

DISCUSSION

a) Less Than Significant Impact.

Construction

As part of Section 402 of the Clean Water Act, the US Environmental Protection Agency has established regulations under the National Pollution Discharge Elimination System (NPDES) program to control direct stormwater discharges. The NPDES program regulates industrial pollutant discharges, which include construction activities. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements.

Wildomar Municipal Code Section 13.12.050 requires development to comply with a Municipal Separate Storm Sewer System (MS4) Permit from the San Diego Regional Water Quality Control Board. Section F.1 of the MS4 permit specifies requirements for new developments, and Section F.1.D details the requirements for standard stormwater mitigation plans (also known as water quality management plans). The MS4 permit imposes pollution prevention requirements on planned developments, construction sites, commercial and industrial businesses, municipal facilities and activities, and residential activities. Even though Wildomar is split by two watersheds (Santa Ana and Santa Margarita) that affect some of the properties in the city, the entire city is governed by the MS4 permit for the Santa Margarita region.

Requirements for waste discharges potentially affecting stormwater from construction sites of one acre or more are set forth in the SWRCB's Construction General Permit, Order No. 2012-0006-DWQ, issued in 2012. The site is larger than one acre and would be subject to requirements of the Construction General Permit. Projects obtain coverage under the Construction General Permit by filing a Notice of Intent with the SWRCB prior to grading activities and preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP) during construction. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the project site, and to contain hazardous materials. BMPs categories include, but are not limited to, erosion control and wind erosion control, sediment control, and tracking control. Implementation and monitoring required under the SWPPP would control and reduce short-term intermittent impacts to water quality from construction activities to less than significant levels.

Operation

The primary constituents of concern during the project operational phase would be solids, oils, and greases from parking area and driveways that could be carried off-site. Structural BMPs as stated in the Water Quality Management Plan (WQMP), included as **Appendix 12** to this Initial Study, would include, but are not limited to, drainage stenciling and signage, roofs designed to runoff into adjoining landscaping, and efficient irrigation, and the use of pervious pavement where possible. Operational source control

BMPs include education for property owners, street and sidewalk sweeping, and landscape maintenance (DRC 2022a).

Additionally, onsite landscaping would assist in minimizing the amount of runoff from the site by providing permeable areas for water infiltration and decreasing runoff volume. Specifically, storm water will be treated by four modular wetland biofiltration systems and hydrodynamic separators before entering the underground detention chambers. The proposed project would also include BMPs to properly manage stormwater flow and prevent stormwater pollution by reducing the potential for contamination at the source, as listed above. The mix of BMPs have been determined as part of the WQMP.

In general, projects must control pollutants, pollutant loads, and runoff volume from the project site by minimizing the impervious surface area and controlling runoff through infiltration, bioretention, or rainfall harvest and use. Projects must incorporate BMPs in accordance with the requirements of the municipal NPDES permit. The project would comply with water quality standards, and impacts are less than significant.

b) Less Than Significant Impact. According to the Geotechnical Report, groundwater was encountered during one of the borings at a depth of 42.6 feet below surface grade. The proposed project is in the area subject to the Elsinore Basin Groundwater Management Plan (EBGMP) area. The EBGMP addresses the hydrogeologic understanding of the Elsinore Basin, evaluates baseline conditions, identifies management issues and strategies, and defines and evaluates alternatives. The primary sources of groundwater recharge in the basin are listed in the plan as:

- Recharge from precipitation – Rainfall directly to the basin.
- Surface water infiltration – Recharge from infiltration of surface waters such as streams. The San Jacinto River is the major surface water inflow. Inflow from Lake Elsinore is considered negligible.
- Infiltration from land use – Direct surface recharge from application of water for irrigation.
- Infiltration from septic tanks – Infiltration in areas serviced by septic systems in the basin.

As shown in the Department of Water Resources Bulletin 118, the Elsinore Basin, which is the major source of potable groundwater supply for Elsinore Valley Municipal Water District (EVMWD), has not been identified to be in a state of overdraft (DWR 2020). Furthermore, active groundwater management and conjunctive use programs have been implemented by EVMWD to ensure the balance of inflows and outflows of the Elsinore Basin (EVMWD 2021). Therefore, the project would not impede sustainable groundwater management of the basin, and impacts are less than significant.

c)

i, ii) **Less Than Significant Impact**. Please refer to issue b) in Section V.7, Geology and Soils, for further discussion of erosion. Surface water drainage would be controlled by building regulations, with the water directed toward existing streets, flood control channels, storm drains, and catch basins. The proposed drainage for the site would not channel runoff on exposed soils, would not direct flows over unvegetated soils, and would not otherwise increase the erosion or siltation potential

of the site or any downstream areas. As discussed above, the proposed project is subject to NPDES requirements and the countywide MS4 permit. Additionally, the project applicant is required to submit a SWPPP to reduce erosion and sedimentation of downstream watercourses during project construction. Furthermore, the applicant is required to prepare and submit a detailed erosion control plan for City approval prior to obtaining a grading permit. Implementation of this plan would address any erosion issues associated with proposed grading and site preparation. Although future development would create new impervious surfaces on the property, development associated with the proposed project would result in opportunities for landscaped areas to be used for on-site stormwater retention.

According to the Preliminary Hydrology Report, the proposed development will not adversely affect the existing drainage patterns in the area (DRC 2022b). The site currently consists of two drainage areas that flow southeasterly towards Wildomar Tail. The proposed drainage facilities will maintain these existing conditions with the commercial and residential portions of the project draining into separate storm drain systems. Four modular wetlands biofiltration BMP's are proposed which would treat the water before entering the underground detention chambers (DRC 2022b).

The project-specific WQMP provides BMPs for after construction, such as educational materials for property owners, street and sidewalk sweeping, and landscape maintenance, etc. Therefore, the proposed project would not result in substantial erosion or siltation on- or off-site, or flooding on- or off-site. Therefore, impacts would be less than significant.

iii) **Less Than Significant Impact.** The proposed project is required to comply with Wildomar Municipal Code Section 13.12.050, which requires development to comply with a MS4 Permit from the San Diego Regional Water Quality Control Board. The proposed project would include biofiltration systems to capture runoff; the proposed project's drainage would match the existing conditions, and therefore, the proposed project would not exceed the capacity of the existing stormwater system. Impacts would be less than significant.

iv). **Less Than Significant Impact.** The project site is designated by the Federal Emergency Management Agency (FEMA) as being within Zone X, indicating minimal risk of flooding (FEMA 2008). Moreover, the project site is not within a 100- or 500-year flood zone (Wildomar 2003). Although the proposed project would increase impervious surfaces, the project site is not located within an area of flood risk, and the proposed catch basins would reduce impacts from on- or off-site flooding. Therefore, impacts are less than significant.

d) No Impact. As provided in V.10.c.iv, the project site is not within a flood hazard zone. The project site is not in an area that is subject to seiches, mudflows, or tsunamis due to the absence of any nearby bodies of water and mud/debris channels. Additionally, the County of Riverside identifies dam inundation hazard areas throughout the county. A review of records maintained at the California Office of Emergency Services provided potential failure inundation maps for 23 dams affecting Riverside County; these maps were compiled into geographic information system (GIS) digital coverage of potential dam inundation zones. The County's dam inundation zones are identified in Figure S-10 of the Wildomar General Plan. As

shown in Figure S-10, the project site is not in any dam inundation hazard zones (Wildomar 2003). In addition, the project is not in the vicinity of any levees. Therefore, the project would not be exposed to seiches, mudflows, or tsunami hazards, and no impact would occur.

e) Less Than Significant Impact. As provided in Section V.10.b, above, the project site is within the Elsinore Basin Groundwater Management Plan area; the proposed improvements would not conflict or obstruct implementation of the EBGMP. Additionally, the project site is in the Water Quality Improvement Plan for the Santa Margarita River Watershed Management Area. The proposed project would comply with water quality requirements set forth in the Statewide General Construction Permit, the NPDES, and the City of Wildomar Municipal Code Section 13.12 (Stormwater/Urban Runoff Management and Discharge Controls Ordinance). Additionally, active groundwater management and conjunctive use programs have been implemented by EVMWD to ensure the balance of inflows and outflows of the Elsinore Basin (EVMWD 2021). Therefore, the project would not impede sustainable groundwater management of the basin, and impacts are less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. Wildomar Municipal Code Section 13.12.060 requires that new construction and renovation control stormwater runoff so as to prevent any deterioration of water quality that would impair subsequent or competing uses of the water. The City shall identify the BMPs that may be implemented in addition to those provided in the WQMP to prevent such deterioration, as part of the building plan check review process prior to construction.

MITIGATION MEASURES

None required.

11. Land Use and Planning

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?			✓	
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			✓	

DISCUSSION

A Parking Demand Analysis Memorandum was prepared by EPD Solutions to assess the commercial parking demands for the project on April 8, 2022 (2022a) and is included in as **Appendix 14**.

a) No Impact. The project site is in an urbanized area characterized by a mix of land uses. The surrounding area includes both residential (medium and high density) and commercial uses. The site itself is primarily vacant land zoned Scenic Highway Commercial (C-P-S) with a Mixed Use Overlay. Thus, implementation of the proposed project would be consistent with existing uses on surrounding properties and conform to the City's vision for development in this area. The project would not disrupt or divide the physical arrangement of an established community, therefore no impact would occur.

b) Less Than Significant Impact. The proposed project site is designated by the City of Wildomar General Plan as a Mixed Used Planning Area (MUPA) and zoned by the City's Zoning Ordinance as Scenic Highway Commercial (C-P-S) with a Mixed Use Overlay. The current project plans are consistent with the policies and development standards established under these designations and ordinances. The General Plan states that MUPA's are intended to allow a mixture of residential, commercial, office entertainment, educational and/or other uses. It is not intended to identify a particular mixture or intensity of land uses in these areas. The project proposes multiple uses for the site including a residential multi-family development and a commercial retail center. The site's Mixed Use Overlay is designed to implement the MUPA designation and requires a density of at least 30 dwelling units per acre for the residential component of a development. The project proposes a density of 33.5 dwelling units per acre which complies with the Mixed Use Overlay/MUPA requirements. The Mixed Use Overlay, as described in Section 17.305.030 (Permitted Uses in Mixed Use Overlay Districts) permits a variety of uses including multi-family apartments, food markets, and restaurants. Additionally, the development standards listed in Sections 17.76 (C-P-S (Scenic Highway Commercial) Zone) and Section 17.44 (R-3 General Residential Zone) of the Wildomar Municipal Code both restrict structures to a maximum height of 50 feet. The tallest structure across both the residential and commercial portions of the project is 39 feet and 9 inches. The project is also consistent with General Plan policies aimed at mitigating environmental effects. For

example, the project complies with policy LU-28.11 which requires mixed-use developments be located and designed to visually enhance, not degrade the character of the surrounding area.

The project will adhere to all additional development standards listed in Sections 17.76, 17.305, and 17.44 and other applicable standards of the Municipal Code with the exception of the City's commercial parking standard. According to Section 17.188 (Off-Street Vehicle Parking Standards), general retail uses which include shopping centers with restaurants, shall provide 6 spaces per 1,000 square feet, resulting in a requirement of 208 parking spaces for the proposed project (EDP 2022). The project would provide 195 spaces and therefore be under parked by 13 spaces, according to the City of Wildomar requirements (EDP 2022a). According to the parking demand analysis conducted by EPD Solutions, the commercial portion of the project is expected to receive a minimum of 8 percent of its peak hour trips from residents of the adjacent residential development. These trips are expected to be made with non-motorized modes of transportation including walking and biking. This corresponds to a reduction of 16 parking spaces and therefore the proposed 195 spaces would provide adequate parking supply for the project. Refer to issue b in Section V. 17 for further discussion of vehicle trip reduction. Furthermore, the City is signatory to the MSHCP and the project site is within the Stephens' Kangaroo Rat Plan Fee Area, as discussed in Issue d of Section 4, Biological Resources, of this Initial Study, and therefore, the project is required to pay fees. Compliance with the MSHCP, applicable General Plan policies and zoning ordinances would result in a less than significant impact.

STANDARD CONDITIONS AND REQUIREMENTS

1. Section 3.42.090 of the Wildomar Municipal Code requires the payment of MSHCP fees at the time of issuance of a building permit.
2. Section 3.44.060 requires that the applicant pay appropriate development impact fees prior to issuance of a certificate of occupancy for the development project.
3. As required by Section 3.43.070 of the Wildomar Municipal Code, the project applicant is required to submit fees to the City in accordance with the requirements of the Stephens' Kangaroo Rat Habitat Conservation Plan Mitigation Fee Area.

MITIGATION MEASURES

None required.

12. Mineral Resources

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓

DISCUSSION

a) No Impact.

The Phase I Environmental Assessment did not locate the site in in any governmental databases monitoring mineral resources including the Active Mines & Mineral Plants Database and the Mineral Resources Data System. Additionally, the proposed project is located in an area designated as MRZ-3 by the Wildomar General Plan (Wildomar 2003.). The MRZ-3 zone includes areas where the available geologic information indicates that while mineral deposits are likely to exist, the significance of the deposit is undetermined. The General Plan Open Space-Mineral Resources (OS-MIN) land use designation allows mineral extraction and processing facilities, based on the applicable Surface Mining and Reclamation Act (SMARA) classification. Those land areas held in reserve for future mining activities are also designated OS-MIN. No areas within the City boundaries are designated as OS-MIN. In addition to local regulations, all projects are required to comply with applicable state and federal regulations. As a result, no impacts would occur.

b) No Impact. There are no known locally important mineral resource recovery sites identified on the project site in the Wildomar General Plan or in a specific plan or other land use plan. As a result, no impacts would occur.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

13. Noise

Issues, would the project result in:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		✓		
b) Generation of excessive groundborne vibration or groundborne noise levels?			✓	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			✓	

A noise impact analysis was prepared by Urban Crossroads on January 18, 2022 and peer reviewed by Placeworks on March 11, 2022. The revised report was prepared on April 18, 2022 (2022d) (see **Appendix 15**)

Noise Measurements

An on-site exterior noise impact analysis was completed to determine the noise exposure levels that would result from adjacent transportation noise sources in the project study area, and to identify potential noise abatement measures that would achieve acceptable project exterior and interior noise levels. The primary source of transportation noise affecting the project site is anticipated to be from Wildomar Trail and Clinton Keith Road. To describe the on-site traffic noise impacts, five on-site receiver locations were identified at the proposed multi-family residential locations facing Wildomar Trail and Clinton Keith Road as shown on Exhibit 8-A in **Appendix 15**. **Table 13-1** presents a summary of future on-site exterior traffic noise levels.

Table 13-1 Exterior Noise Levels (CNEL)				
Receiver Location	**Roadway**	**Land Use**	**Exterior Noise Level (dBA CNEL)**	**Land Use Compatibility[1]**
MF1	Wildomar Trail	Multi-Family Residential	56.6	*Normally Acceptable*
MF2	Wildomar Trail	Multi-Family Residential	56.6	*Normally Acceptable*
MF3	Clinton Keith Road	Multi-Family Residential	59.2	*Normally Acceptable*
MF4	Clinton Keith Road	Multi-Family Residential	61.1	*Normally Acceptable*
MF5	Clinton Keith Road	Multi-Family Residential	65.3	*Conditionally Acceptable*

Source: Urban Crossroads 2022d, (Appendix 15)

[1] Based on General Plan land use combability guidelines; refer to Exhibit 3-A in Appendix 15

As shown on **Table 13-1**, the proposed multi-family residential land use will experience transportation related exterior noise levels ranging from 56.6 to 65.3 dBA CNEL. According to the Land Use Compatibility Guidelines in the City's Noise Element, noise experienced by multi-family residential land uses is considered "normally acceptable" as it approaches 65 dBA CNEL and conditionally acceptable up to 70 dBA CNEL. "Normally acceptable" noise levels do not require any additional noise insulation requirements, based upon the assumption that any buildings involved are of normal conventional construction (Wildomar 2003). For "conditionally acceptable" exterior noise levels, the land use compatibility guidelines indicate that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insultation features are included in the design.

Table 13-2 shows that the buildings within the project will require a windows-closed condition and a means of mechanical ventilation to maintain the interior noise limit. The future interior noise levels are expected to range from 31.6 to 40.3 dBA CNEL. This analysis shows that the 45 dBA CNEL interior noise level standard can be satisfied using standard building construction providing windows and sliding glass doors.

Table 13-2 Interior Noise Levels (CNEL)					
Receiver Location	**Roadway**	**Noise Level at Façade[1]**	**Required Interior Noise Reduction[2]**	**Estimated Interior Noise Reduction[3]**	**Interior Noise Level[4]**
MF1	Wildomar Trail	56.6	11.6	25.0	31.6
MF2	Wildomar Trail	56.6	11.6	25.0	31.6
MF3	Clinton Keith Road	59.2	14.2	25.0	34.2
MF4	Clinton Keith Road	61.1	16.1	25.0	36.1
MF5	Clinton Keith Road	65.3	20.3	25.0	40.3

Source: Urban Crossroads 2022d (Appendix 15)

[1] Exterior noise level at the façade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).

[2] Noise reduction required to satisfy the 45 dBA CNEL interior noise limits.

[3] A minimum of 25 dBA noise reduction is assumed with standard building construction

[4] Estimated interior noise level with minimum STC rating for all windows.

Sensitive Receptors

Noise exposure standards and guidelines for various types of land uses reflect the varying noise sensitivities associated with each of these uses. Residences, hospitals, schools, guest lodging, libraries, and churches are treated as the most sensitive to noise intrusion and therefore have more stringent noise exposure targets than do other uses, such as manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance. Sensitive receptors near the Project are listed in **Table 13-3**, Sensitive Receptors.

Table 13-3 Sensitive Receptors	
Receptor Type/Description	**Distance and Direction from the Project Site**
(R1) Residence at 35816 Poplar Crest Road	100 feet northwest
(R2) Residence at 35925 Susan Drive	212 feet northeast
(R3) Oak Spring Ranch at 24055 Clinton Keith Road	204 southeast
(R4) Residence at 23849 Lancer Court	19 feet west

Source: Urban Crossroads 2022d (Appendix 15)

DISCUSSION

a) Less Than Significant with Mitigation Incorporated.

Significance Criteria

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. **Table 13-4** Significance Criteria Summary shows the criteria used to identify potentially significant incremental noise level increases.

Table 13-4 Significance Criteria Summary			
Analysis	**Condition(s)**	**Significance Criteria**	
		Daytime	**Nighttime**
Off-Site Traffic[1]	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
	If amb–ent is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
	If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
On-Site Traffic	Exterior Noise Compatibility Criteria[2]	See Exhibit 3-A in Appendix 15	
	Interior Noise Level Standard[3]	45 dBA CNEL	
Stationary-Source	Exterior Noise Level Standards[4]	65 dBA L_{eq}	45 dBA L_{eq}
	If ambient is < 60 dBA L_{eq} [1]	≥ 5 dBA L_{eq} Project increase	
	If amb–ent is 60 - 65 dBA L_{eq} [1]	≥ 3 dBA L_{eq} Project increase	
	If ambient is > 65 dBA L_{eq} [1]	≥ 1.5 dBA L_{eq} Project increase	
Construction	Noise Level Threshold[5]	80 dBA L_{eq}	
	Vibration Level Threshold[6]	0.3 PPV (in/sec)	

Source: Urban Crossroads 2022d (Appendix 15)

[1] FICON, 1992

[2] City of Wildomar General Plan Land Use Compatibility for Community Noise Exposure, Table N-1 (Exhibit 3-A)

[3] City of Wildomar General Plan Policy N 13.1

[4] City of Wildomar General Plan Policy N 4.1.

[5] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.

[6] Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.

Construction

Construction-related, short-term noise levels would be higher than existing ambient noise levels in the project area but would no longer occur once construction of the project is complete.

Construction Noise

Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. During construction, noise levels are expected to range from 46.6 to 61.3dBA L_{eq}, and the highest construction levels are expected to range from 63.2 to 67.8 dBA L_{eq} at the nearest receiver locations from the property line. Construction activities would occur throughout the project site and would not be concentrated at the point closest to the sensitive receptors.

Construction activities would include site preparation, grading, building construction, paving, and architectural coating. Such activities would require graders, scrapers, and tractors during site preparation; graders, dozers, and tractors during grading; cranes, forklifts, generators, tractors, and welders during building construction; pavers, rollers, mixers, tractors, and paving equipment during paving; and air compressors during architectural coating. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 to 4 minutes at lower power

settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels.

In addition, the City's Noise Ordinance indicates that noise sources associated with private construction projects located within one-quarter of a mile from an inhabited dwelling are permitted between the hours of 6:00 a.m. and 6:00 p.m. during the months of June through September, and between the hours of 7:00 a.m. and 6:00 p.m. during the months of October through July. These permitted hours of construction are included in the code in recognition that construction activities undertaken during daytime hours are a typical part of living in an urban environment and do not cause a significant disruption. The potential for construction-related noise to affect nearby residential receptors would depend on the location and proximity of construction activities to these receptors.

To evaluate whether the proposed project would generate potentially significant short-term noise levels at the nearest receiver locations, a construction-related daytime noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the reasonable daytime 80 dBA L_{eq} significance threshold during project construction activities as shown on **Table 13-5.** Therefore, the noise impacts due to project construction noise are considered less than significant at all receiver locations.

Table 13-5 Construction Noise Level Compliance

Receiver Location	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[1]	Threshold[2]	Threshold Exceeded?[3]
R1	54.0	80	No
R2	53.4	80	No
R3	52.6	80	No
R4	61.3	80	No

Source: Urban Crossroads 2022d (Appendix 15)

[1] Highest construction noise level calculations based on distance from the construction noise source activity to the nearest receiver locations

[1] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.

[3] Do the estimated project construction noise levels exceed the construction noise level threshold?

The project would also include a roadway improvement on Clinton Keith Road between the intersection with Wildomar Trail and Arya Road, which is discussed in Section V.17, Transportation. The improvement is part 'f the City's Capital Improvement Program CIP 025 Clinton Keith Widening and the impacts were addressed in an IS/MND adopted by Riverside County (SCH# 200910103). The proposed project would only be responsible for the improvements if it is constructed before the City on the project. The project would also be responsible for implementing mitigation measure **NOI-1**, as shown in the Clinton Keith Road Widening IS/MND.

Construction Truck Trips

Construction activities would also cause increased noise along access routes to and from the site due to movement of equipment and workers. Mobile source noise would increase along access routes to and from the project site during construction. However, this source of noise would be temporary and would cease upon completion of the proposed project. It is anticipated that hauling would occur along major City roadways, which are collector streets, such as Clinton Keith Road. While individual trucks will generate noise as they pass by a receptor, the intermittent noise would not exceed a noise threshold which is based on hourly or daily noise levels. Additionally, construction activities would only take place within the allowable hours specified by Municipal Code Section 9.48.020. Therefore, short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

Operations

Implementation of the proposed project would create new sources of noise in the project vicinity. The on-site project related noise sources are expected to include: loading dock activity, pool/spa activity, outdoor eating activity, trash enclosure activity, roof-top air conditioning units, parking lot activity, shopping cart corrals and drive-thru speakerphones. **Table 13-6** Daytime Project Stationary Source Noise Levels, shows the project stationary source noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 42.9 to 47.7 dBA L_{eq}. **Table 13-7** Nighttime Project Stationary Source Noise Levels, shows the project stationary source noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 39.1 to 44.5 dBA L_{eq}. The differences between the daytime and the nighttime noise levels are largely related to the duration of noise activity.

Table 13-6 Daytime Project Stationary Source Noise Levels

Noise Source	Stationary source Noise Levels by Receiver Location (dBA L_{eq})			
	R1	R2	R3	R4
Loading Dock Activity	32.2	36.5	16.4	15.1
Pool/Spa Activity	22.9	19.8	26.6	39.6
Outdoor Seating Activity	21.1	25.8	35.7	24.1
Trash Enclosure Activity	23.0	23.5	22.8	38.6
Roof-Top Air Conditioning Units	41.2	40.3	40.1	42.5
Parking Lot Activity	38.2	40.0	36.6	43.3
Shopping Cart Corral	7.0	10.4	20.2	9.6
Drive-Thru Speakerphone	14.4	10.1	23.1	35.7
Total (All Noise Sources)	**43.4**	**44.1**	**42.9**	**47.7**

Source: Urban Crossroads 2022d (Appendix 15)

Table 13-7 Nighttime Project Stationary Source Noise Levels				
Noise Source	**Stationary source Noise Levels by Receiver Location (dBA L_{eq})**			
	R1	**R2**	**R3**	**R4**
Loading Dock Activity	28.2	32.5	12.5	11.1
Pool/Spa Activity	0.0	0.0	0.0	0.0
Outdoor Seating Activity	0.0	0.0	0.0	0.0
Trash Enclosure Activity	22.1	22.5	21.8	37.6
Roof-Top Air Conditioning Units	38.8	37.9	37.7	40.1
Parking Lot Activity	34.3	36.0	32.6	39.3
Shopping Cart Corral	6.1	9.4	19.2	8.7
Drive-Thru Speakerphone	14.4	10.1	23.1	35.7
Total (All Noise Sources)	**40.5**	**40.8**	**39.1**	**44.5**
Source: Urban Crossroads 2022d (Appendix 15)				

Noise levels that would be experienced at receiver locations when project-source noise is added to the daytime and nighttime ambient conditions area presented on **Table 13-8** Daytime Project Stationary Source Noise Level Increases and **Table 13-9** Nighttime Project Stationary Source Noise Level Increases, respectively. As indicated on **Table 13-8**, the project will generate a daytime stationary source noise level increase ranging from 0.1 to 1.7 dBA L_{eq} at the nearest receiver locations. **Table 13-9** shows that the project will generate a nighttime stationary source noise level increase ranging from 0.1 to 0.3 dBA L_{eq} at the nearest receiver locations. Project-related stationary source level increases will satisfy the stationary source noise increase significance criteria presented in **Table 13-4**. Therefore, the incremental project stationary source noise level increase is considered less than significant at all receiver locations.

Table 13-8 Daytime Project Stationary Source Noise Level Increases							
Receiver Location[1]	**Total Project Stationary Source Noise Level[2]**	**Measurement Location[3]**	**Reference Ambient Noise Level[4]**	**Combined Project and Ambient[5]**	**Project Increase[6]**	**Increase Criteria[7]**	**Increase Criteria Exceeded?**
R1	43.4	L1	54.4	54.7	0.3	5.0	No
R2	44.1	L2	60.4	60.5	0.1	3.0	No
R3	42.9	L3	61.7	61.8	0.1	3.0	No
R4	47.7	L4	50.9	52.6	1.7	5.0	No

Source: Urban Crossroads 2022d (Appendix 15).

[1] See Exhibit 9-A in Appendix 16 for the receiver locations.

[2] Total project daytime stationary source noise levels as shown on Table 13-6

[3] Reference noise level measurement locations as shown on Exhibit 5-A of Appendix 15.

[4] Observed daytime ambient noise levels as shown on Table 5-1 in Appendix 15.

[5] Represents the combined ambient conditions plus the project activities

[6] The noise level increase expected with the addition of the proposed project activities.

[7] Significance increase criteria as shown on Table 13-4

Table 13-9 Nighttime Project Stationary Source Noise Level Increases

Receiver Location[1]	Total Project Stationary Source Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Level[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	40.5	L1	53.3	53.5	0.2	5.0	No
R2	40.8	L2	55.4	55.5	0.1	5.0	No
R3	39.1	L2	55.4	55.5	0.1	5.0	No
R4	44.5	L3	55.8	561	0.3	5.0	No

Source: Urban Crossroads 2022d (Appendix 15)

[1] See Exhibit 9-A in Appendix 14 for the receiver locations.

[2] Total project nighttime stationary source noise levels as shown on Table 13-7

[3] Reference noise level measurement locations as shown on Exhibit 5-A of Appendix 15.

[4] Observed daytime ambient noise levels as shown on Table 5-1 in Appendix 15.

[5] Represents the combined ambient conditions plus the project activities

[6] The noise level increase expected with the addition of the proposed project activities.

[7] Significance increase criteria as shown on Table 13-4

Off-Site Traffic Noise

Future development generated by the project would result in additional traffic on adjacent roadways, increasing vehicular noise near existing and proposed land uses. The existing traffic noise levels range from 68.0 to 71.4 dBA CNEL and as shown in **Table 13-10** Existing Project Traffic Noise Level Increases, the traffic noise levels generated by the project range from 68.4 to 71.6 dBA CNEL which is an increase of 0.1 to 0.4 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in **Table 13-4**, land uses adjacent to the study area roadway segments would experience less than significant impacts.

Table 13-10 Existing Project Traffic Noise Level Increases

Road	Road Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
		No Project	With Project	Project Addition	Limit	Exceeded
Inland Valley Drive	s/o Clinton Keith Road	68.0	68.4	0.4	1.5	No

Clinton Keith Road	w/o Arya Road	71.4	71.6	0.2	1.5	No
Clinton Keith Road	w/o Wildomar Trail	70.7	70.8	0.1	1.5	No
Clinton Keith Road	e/o Wildomar Trail	70.5	70.9	0.4	1.5	No
Clinton Keith Road	e/o Inland Valley Drive	69.4	69.7	0.3	1.5	No

Source: Urban Crossroads 2022d (Appendix 15)

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[2] Does the project create an incremental noise level increase exceeding the significance criteria (Table 13-4)

An analysis of the existing traffic noise levels plus traffic noise generated by the proposed project is shown in **Table 13-11** Cumulative Project Traffic Noise Level Increases. The cumulative exterior noise levels range from 70.8 to 73.6 dBA CNEL without accounting for any noise attenuation features such as noise barriers or topography. The project conditions plus cumulative noise levels range from 71.0 to 73.8 dBA CNEL. Based on the significance criteria listed presented in **Table 13-4**, land uses adjacent to the study area roadway segments would experience less than significant noise level increases due to the cumulative and project-related traffic.

Table 13-11 Cumulative Project Traffic Noise Level Increases

Road	Road Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
		No Project	With Project	Project Addition	Limit	Exceeded
Inland Valley Drive	s/o Clinton Keith Road	70.8	71.0	0.2	1.5	No
Clinton Keith Road	w/o Arya Road	73.6	73.8	0.2	1.5	No
Clinton Keith Road	w/o Wildomar Trail	73.2	73.3	0.1	1.5	No
Clinton Keith Road	e/o Wildomar Trail	73.2	73.4	0.2	1.5	No
Clinton Keith Road	e/o Inland Valley Drive	72.4	72.5	0.1	1.5	No

Source: Urban Crossroads 2022d (Appendix 15)

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

[2] Does the project create an incremental noise level increase exceeding the significance criteria (Table 13-4)

b) Less Than Significant Impact. Once operational, the project would not be a source of groundborne vibration. Increases in groundborne vibration levels attributable to the proposed project would be primarily associated with short-term construction-related activities. Construction on the project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved.

The California Department of Transportation (Caltrans) routinely published updates to transportation and construction guidance manual which contains standard vibration velocities for construction and equipment operations. Vibration generated by construction activity has the potential to damage structures, disrupt the operation of vibration-sensitive research and advanced technology equipment and

annoy humans (Caltrans 2020). Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage generally dependent on the building material and the building's age, the qualities of the soil underneath it and the distance at which is receiving vibrations. Caltrans suggests that an appropriate damage potential threshold for older residential structures is 0.3 inches per second when the source is continuous (Caltrans 2020). Additionally, the Federal Transit Administration (FTA) recommends the standard of 0.2 in/sec as a conservative vibration level safe for most building types (FTA 2018). Groundborne vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The nearest receiver locations range from 49 feet to 252 feet from the proposed project's construction activities. At these distances, construction vibration velocities are estimated to range from 0.007 to 0.077 in/sec PPV, which is below both Caltrans' 0.3 in/sec threshold, as seen in **Table 13-4,** and the FTA's standard of 0.2 in/sec. Therefore, vibration impacts associated with the project would be less than significant.

c) Less Than Significant Impact. The project is not located within an airport land use plan. There is no public airport or public use airport located within two miles of the project site; however, the nearest private airstrip is the Bear Creek Airport located approximately 3.6 miles southwest of the project site. The proposed project would not expose people residing or working in the area to excessive noise levels. Therefore, impacts are less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. As required by the City of Wildomar Municipal Code Sections 9.48.020 and 15.04.010, all construction and general maintenance activities shall be limited to the hours 7:00 AM and 6:00 PM from October through May (Monday–Saturday), and between 6:30 AM and 6:00 PM (Monday–Saturday) from June through September. No construction is permitted on Sundays or City-observed holidays unless approved by the City Building Official or City Engineer.

MITIGATION MEASURES

The following mitigation measure from the Clinton Keith Road Widening Project IS/MND (SCH# 200910103) would also be applicable to the proposed project (numbering is from 2009 IS/MND):

NOI-1 All noise producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers and air-inlet silencers, where appropriate, in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.

Timing/Implementation: *Prior to construction*

Enforcement/Monitoring: *City of Wildomar Building Department*

14. Population and Housing

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?			✓	

DISCUSSION

a) Less Than Significant Impact. According to estimates made by the California Department of Finance (DOF) regarding the average household size in the City of Wildomar, the project is expected to house approximately 486 new residents[1] (DOF 2022[2]). When compared to the to the 2022 estimated population of 36,632, the proposed project would result in an approximate 1.32 percent increase to the City's population (DOF 2022). As part of its Regional Transportation/Sustainable Community Strategies Plan (RTP/SCS), the Southern California Association of Governments makes projections about the population growth in its member cities which include Wildomar. These projections show an estimated population of 55,200 in 2045 for the City, which is an increase of 18,568 from the DOF 2022 estimates. The potential 486 new residents added by the project would comprise 2.6 percent of the projected 25-year population growth of the city. SCAG also projected that the City's population would be 38,700 in 2020, which is an additional 1,825 people when compared to the actual population recorded during the 2020 Census count of 36,875 (Census 2020). If the estimated project population is added to either the existing population of the City recorded in 2020 or the 2021 estimated population, the resulting estimated population remains below the 2020 SCAG projection. Because the projected increase in population due to the housing portion of the proposed project is less than the regionally anticipated population growth, the impact to population is considered less than significant.

[1] Note that all of the above figures assume residents new to the City.

[2] 150 apartments x 3.24 average persons per household (DOF 2022) = 486 persons

The project will also employ a workforce for both the construction and operational stages of the project. Due to the size of the project and the duration of labor needed to complete it, the City expects that those employed during the construction phase will likely be commuting to job sites rather than relocating their households to any significant degree. The project's commercial uses are expected to generate between 31[3] and 56[4] new jobs in the City (Natelson 2001). It is anticipated that this new on-site employment under the project would also not lead to a significant relocation of workers due to the size of the existing labor pool in the area. Additionally, when compared to SCAG's employment 2045 projection of 11,200 workers in the City the project's contribution to overall population increases due to employment is marginal. Therefore, jobs added by the project would not induce substantial growth to the City's population.

b) Less than Significant. The project site is primarily vacant with the exception of a single-family residence that the project's Historic Resources Assessment estimates was built in the 1960s. The proposed project would develop this site by demolishing all existing structures and constructing housing, retail, and restaurant uses. Since the project will not be displacing a significant amount of people, the impacts are considered less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

[3] The project's 35,422 square of commercial space was divided by 1,148 square feet/employee which represents the median square feet/employee in the "other retail" category for Riverside County and this calculation equals 30 employees.

[4] The project's commercial square footage was also divided by 629 square feet/employee which represents the average square feet/employee in the "other retail" category for Riverside County and this calculation equals 56 employees.

15. Public Services

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
a) Fire protection?			✓	
b) Police protection?			✓	
c) Schools?			✓	
d) Parks?			✓	
e) Other public facilities?			✓	

DISCUSSION

a) Less Than Significant Impact. The Riverside County Fire Department (RCFD) provides fire protection and safety services to the City of Wildomar. RCFD Fire Station 61 on 32637 Gruwell Street is approximately 2 miles to the west of the site and RCFD Fire Station 75 on 38900 Clinton Keith Road in the City of Murrieta is approximately 2.5 miles south of the site. These and several other Riverside County and Murrieta Fire Department stations in the surrounding area would be able to provide fire protection services to the project site, if needed.

A standard condition of approval for the proposed project includes compliance with the requirements of the Riverside County Fire Department and the payment of standard City development impact fees, which include a fee for fire service impacts. The proposed project is not expected to result in activities that create unusual fire protection needs, therefore any such impacts are considered less than significant.

b) Less Than Significant Impact. Police protection services are provided in Wildomar by the Riverside County Sheriff's Department (RCSD). The nearest sheriff's station is located at 333 Limited Street in Lake Elsinore, approximately 7 miles northwest of the project site. Traffic enforcement is provided in this area of Riverside County by the California Highway Patrol, with additional support from local Riverside County Sheriff's Department personnel.

The Sheriff's Department strives to maintain a recommended servicing of 1.2 sworn law enforcement personnel for every 1,000 residents (Wildomar 2018). The proposed project would introduce new land uses to the site but as discussed in Section V.14, Population and Housing, it is not anticipated to induce

substantial population growth in the area. The project uses would instead serve the projected growth, and therefore, would not be expected to substantially increase the demand for police protection services. Regardless, pursuant to Section 3.44 of the Municipal Code, the project applicant is required to pay standard development impact fees, which include a fee for police service to offset potential demand for new structures or expanded facilities associated with development. Consideration of adding more law enforcement personnel is Council decision and is not a CEQA issue. As the physical impacts of police force expansion are part of the impact fees that are required to be paid prior to building permit, this impact is less than significant.

c) Less Than Significant Impact. The project site is in the Lake Elsinore Unified School District (LEUSD). As discussed in issue a) in section V. 14, Population and Housing, the proposed project would not induce substantial growth to the city's population but instead accommodate this projected growth. The City provides a Notice of Impact Mitigation Requirement to applicants for a building permit, who then work with the school district to determine the precise amount of the fee. Once the fee has been paid in full, LEUSD prepares and provides a certificate to the City demonstrating payment of the fee. Payment of fees in compliance with Government Code Section 65996 fully mitigates all impacts to school facilities. Therefore, this impact is less than Significant.

d) Less Than Significant Impact. The City of Wildomar owns and manages four public parks with a combined acreage of 14.27 acres: Marna O'Brien Park, Regency Heritage Park, Windsong Park, and Malaga Park. Additionally, the City is proposing to develop two new park sites of 11 and 27 acres, respectively. The City requires 3 acres of neighborhood and community parkland per 1,000 residents as per the City of Wildomar Municipal Code Section 16.20.020 Park and recreation fees and dedications. The proposed project is projected to add at maximum 498 new residents to the City's population, which would necessitate a dedication of 1.49 acres of public parkland by the project. The project will provide 43,430 square feet (1 acre) of public open space, however this space is not considered parkland and does not count towards the public open space requirements. Payment of the City's development impact fees will reduce the impact to less than significant as the fees are used to expand and develop parkland.

e) Less Than Significant Impact. Development of the proposed project would not significantly increase demand for other public facilities. Since the growth expected by the project would not exceed the City's growth projections, the demand for additional services would be incremental. The project applicant would be required to pay any applicable impact fees which will contribute to offsetting this demand on local government services. Therefore, impacts would be less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

1. The project applicant is required to comply with the requirements of the Riverside County Fire Department and pay standard development impact fees for fire service impacts (Wildomar Municipal Code Section 3.44).
2. The project applicant is required to pay standard development impact fees for police service impacts (Wildomar Municipal Code Section 3.44).

3. The City will require that the project applicant work with the LEUSD to determine the precise amount for the Notice of School Impact Mitigation, and demonstrate payment of the fee prior to issuance of a building permit. (Wildomar Municipal Code Section 15.50.170)
4. The project applicant is required to pay standard development impact fees for impacts to parks (Wildomar Municipal Code Section 3.44).

MITIGATION MEASURES

None required.

16. Recreation

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			✓	

DISCUSSION

a) Less Than Significant Impact. See response to issue V.15.d., Public Services above. The project would require the dedication of 1.49 acres of parkland as described under Section 16.20.020 Park and Recreation Fees and Dedications of the City's municipal code. The project would provide a 3,388 square-foot private club/fitness center on site. It would also provide 1-acre of public space including retail and outdoor eating space in addition to open and landscaped space. The project applicant would be required to pay impact fees which would reduce the impacts to existing parks and recreational facilities. Therefore, impacts would be less than significant.

b) Less Than Significant Impact. The project will provide a recreational area available to residents of the development, inclusive of a clubhouse with a swimming pool, outdoor seating, and a fitness center. This amenity would occupy 3,388 square feet of space on the site and is included as part of the proposed development. The construction or expansion of this facility would not result in an adverse physical effect on the environment beyond those analyzed for the overall development of the project in this document. Therefore, impacts would be less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

None required.

17. Transportation

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			✓	
b) Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?			✓	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
d) Result in inadequate emergency access?			✓	

The Traffic Impact Analysis (TIA) was prepared by EDP Solutions, Inc. (EPD) on January 19, 2022 (2022b) (revised August 10, 2022) and is included as **Appendix 16.** This document was peer reviewed by the City.

Trip Generation

Trip generation represents the amount of traffic that is attracted and produced by a development based on the specific land uses planned for a given project. Trip generation rates for the proposed project are shown in **Table 17-1**, Project Trip Generation Rates, illustrating daily and peak hour trip generation estimates based on the ITE Trip Generation Manual, 11th Edition (2021), for each of the planned uses in the project. The daily AM and PM peak hours are defined as the hour with the highest traffic volumes during the 7 AM to 9 AM and 4 PM to 6 PM peak commute periods.

Table 17-1 Project Trip Generation Rates

Land Use[1]	ITE LU Code	Units[2-3]	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Multifamily Housing (Mid-Rise)	221	DU	0.09	0.28	0.37	0.15	0.24	0.39	4.54
Supermarket	850	TSF	1.69	1.17	2.86	4.48	4.48	8.95	93.84
Strip Retail Plaza	822	TSF	2.36	1.57	3.93	5.08	5.08	10.16	99.67
Fast-Food Restaurant with Drive-	934	TSF	22.75	21.86	44.61	17.18	15.85	33.03	467.48

Through Windows									
Coffee/Donut Shop with Drive-Through Window	937	TSF	43.80	42.08	85.88	19.50	19.50	38.99	533.57
High-Turnover (Sit-Down) Restaurant	932	TSF	5.26	4.31	9.57	5.52	3.53	9.05	107.20

Source: EDP Solutions Inc. 2022 (Appendix 16)

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021)

[2] DU = Dwelling Units

[3] TSF = Thousand Square Feet

As shown on **Table 17-2**, Project Trip Generation Summary, the proposed project is anticipated to generate a total of approximately 4,551 two-way trips per day with 282 AM peak hour trips and 404 PM peak hour trips.

Table 17-2 Project Trip Generation Summary

Land Use	Quantity Units[1-2]	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Multifamily Housing (Mid-Rise)	150 DU	13	43	56	23	36	59	681
Supermarket	23.104 TSF	39	27	66	103	103	206	2,168
Shops	4.0 TSF	9	7	16	20	21	41	399
Fast-Food Restaurant with Drive-Through Windows	2.6 TSF	59	57	116	45	41	86	1,215
Coffee/Donut Shop with Drive-Through Window	1.133 TSF	50	48	98	22	22	44	605
High-Turnover (Sit-Down) Restaurant	3.348 TSF	18	14	32	18	12	30	359
Total Trips Generated		**194**	**199**	**393**	**237**	**242**	**478**	**5,544**
Pass By Trips (*Fast-Food and Coffee Shop 50% AM, 55% PM)*[3]		-57	-54	-111	-38	-36	-74	-993
Total Net Trip Generation		**137**	**145**	**282**	**199**	**206**	**404**	**4,551**

Source: EDP Solutions, Inc. 2022 (Appendix 16)

[1] DU = Dwelling Units

[2] TSF = Thousand Square Feet

[3] Pass-By Trip Percentage from the Institute of Engineers, Web Based Apps: Pass-By- Data and Rate Tables/2021 Pass-By Tables for ITE Gen Appendices. The daily pass-by reduction of 52.5% was assumed as an average of the AM and PM rates.

a) Less Than Significant Impact. As shown on Table 17-2, the proposed project is anticipated to generate a net total of approximately 4,551 two-way trips per day with 282 AM peak hour trips and 404 PM peak hour trips.

Public Transit and Bicycle Plans

The project area is directly served by the Riverside Transit Agency (RTA) route 23 which provides service within the cities of Wildomar, Murrieta and Temecula (RTA 2022a). The route travels along Clinton Keith Road fronting the southern project site boundary, stopping at the corner of Clinton Keith Road and Wildomar Trail. This stop would provide direct access to transit services for residents and employees of the proposed project, and all the commercial component of the proposed project to be accessed by transit by residents of Wildomar and surrounding communities. As a result of these proposed uses and the proximity of the stop to the site, the use of transit services is expected to increase. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs in order to adequately serve all residents of member communities (RTA 2022b). The Riverside County Transportation Commission and the City of Wildomar recognize the benefits of placing transit services in proximity of mixed-use developments as a congestion management strategy and include goals and policies that encourage this coordination within their Long-Range Transportation Study and General Plan, respectively (RCTC 2019, Wildomar 2003).

The site is also in proximity of roadside trails La Estrella Street W-E-24b and Salinda Del Sol N-S-27 which are approximately 0.4-mile northwest of the project, as well as the multi-use Jon Rodarme Regional Trail which sits approximately 0.5-mile south of the site (Wildomar 2019).

The proposed project will include a condition of approval that would improve a portion of the north side of Clinton Keith Road between the intersection with Wildomar Trail and Arya Road. The improvement will move the existing curb and gutter north to allow buildout of a third lane. A portion of the third lane already exists and the movement of the curb is needed to ensure that the existing bike lane can remain. The improvement is part of the City's Capital Improvement Program CIP 025 Clinton Keith Widening and the impacts were addressed in an IS/MND adopted by Riverside County (SCH# 200910103). The proposed project would only be responsible for the improvements if it is constructed before the City on the project.

Consistent with the City's plans, the proposed project will construct a bike lane on Wildomar Trail. Any additional proposed changes to bicycle and pedestrian facilities will be consistent with City development standards and will be checked for compliance as part of the City's review process. Therefore, the proposed project would not conflict with any policies, plans, or programs related to public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities as improvements would occur within the project boundaries. Impacts would be less than significant.

Roadways and Intersections

Automobile delay, as described by Level of Service (LOS) or other measurements of vehicular capacity or traffic congestion, is no longer considered a significant impact under CEQA. However, the City uses LOS to determine the appropriate size of roadways and the need for intersection improvements. If the proposed project is projected to exceed the City's LOS standard, conditions of approval may be placed on the project

to address the traffic impact. As CEQA must evaluate the whole of the project, physical impacts to the environment such as changes to roadways and/or intersection from either a mitigation measure or condition of approval must also be evaluated.

The TIA evaluated 12 intersections that would experience an increase of 50 trips or more under implementation of the project. The analysis evaluated impacts to these intersections using the following scenarios:

- Project Completion Conditions- This scenario forecasted traffic volumes for the anticipated opening year of the project, 2024, by adding the project's expected trips to existing traffic conditions and adding an ambient growth rate of 2 percent per year to existing traffic volumes.
- Cumulative Conditions- This scenario forecasted traffic volumes for the anticipated opening year of the project, 2024, by adding the project's expected trips to existing traffic conditions, adding an ambient growth rate of 2 percent per year to existing traffic volumes and adding traffic generated by other approved and pending development projects.

The City's Circulation Element identifies LOS D as an acceptable level of traffic operations during peak hour at intersections (Wildomar 2003). Therefore, project-related traffic that would result in roadway segments operating at LOS E or F would exceed the City's standard for congestion impacts. All intersections currently operate at an acceptable LOS under existing conditions, with the exception of Arya Road and Clinton Keith Road which operates at LOS E. The TIA concluded that these intersections would continue to operate an acceptable LOS under the Project Completion scenario during both AM and PM peak hours with the exception of Arya Road/Clinton Keith Road which would operate at LOS F during the PM peak hour To address the project's impacts to this roadway, the TIA recommends that the project construct the following roadway improvement or provide fair-share as per the approved Westpark Promenade Conditions of Approval:

- Restripe northbound combined-through left (NBTL) to northbound left (NBL) and northbound right (NBR) to northbound through right (NBTR), southbound left/through/right lane (SBLTR) to southbound through left (SBTL), add southbound right (SBR).

The project would construct this improvement in the event that its construction commences before the construction of the adjacent Westpark Promenade project. Otherwise, the project would contribute its fair-share for all improvements to this intersection. The construction of this improvement would reduce the LOS delay on Arya Road and Clinton Keith Road from 84.1 seconds at PM peak (LOS F) to 33.9 second at PM peak (LOS C).

Under the Cumulative Conditions analysis, the TIA found that five of the studied intersections would operate at an LOS E or worse. In order to address the proposed project's traffic impacts, the City would impose conditions of approval that require the project to construct improvements or pay its fair share to implement the improvements shown in **Table 17-3**. Improvements to Wildomar Trail/Project Driveway 4, also included in **Table 17-3**, would be implemented as project design features. The TIA includes the following specifications regarding these improvements:

- **Intersection of Wildomar Trail and Clinton Keith Road:** Construct improvements as per the approved Capital Improvement Project at this intersection. Improvements include the addition of westbound through receiving lane at project frontage and the modification of westbound right lane to westbound through right lane. Signal modifications include changing southbound left lane and northbound left lane signal permissive phasing to protected permissive and overlapping southbound right lane. In the event the CIP improvements are constructed before the project is constructed, the project would contribute fair-share to improvements at this intersection.
- **Intersection of Inland Valley Drive and Clinton Keith Road**: Project would contribute fair-share to the CIP at this intersection which improves the intersection to a 4-lane intersection. Improvements include addition of westbound through lane and eastbound through lane receiving lane.
- **Intersection of Palomar Road and Clinton Keith Road:** Project would contribute fair-share to intersection improvements as per approved CIP at this intersection. Improvements as per CIP include addition of 2nd eastbound left lane, modification of eastbound right lane to eastbound through right lane. Modification of westbound through lane to westbound through right lane. Modification on northbound through right lane to northbound through lane, addition of northbound right lane and addition of 2nd southbound left lane. The project's fair-share contributions would be limited to the 2nd southbound left lane improvement on Clinton Keith Road which would include widening the road to shift the southbound right lane further northwest.
- **Intersection of Arya Road and Clinton Keith Road:** Construct improvements or provide fair-share as per approved Westpark Promenade Conditions of Approval. Improvements include northbound striping to provide dedicated northbound left lane and northbound through right lane, dedicated southbound left lane and southbound through right lane. Recommended signal modifications include changing northbound-southbound permissive phasing to protective permissive phasing. Project would construct improvements in the event that its construction commences before the construction of the adjacent Westpark Promenade project; otherwise, project would contribute fair-share for all improvements to this intersection as stated in Section 7.2. Improvements in the Traffic Impact Analysis (Appendix 16) would include widening of Arya Road to 4 lanes.
- **Wildomar Trail/Project Driveway 4:** Construct improvements as project design feature to add Two Stage Gap Acceptance for eastbound left lane approach from Project Driveway.

All the improvements in **Table 17-3** would occur in the existing public right of way adjacent to or on existing streets. Therefore, construction and operation of the proposed roadway widening, restriping, and signalization would occur in areas disturbed by previous roadways, and environmental impacts as a result of the implementation of these improvements would be less than significant.

The implementation of these improvements would ensure all intersections are improved to satisfactory operations of LOS D or better, except for the intersections of Wildomar Trail/Clinton Keith Road and Inland

Valley Drive/Clinton Keith Road which would be improved to better-than-existing LOS F and LOS E operations, respectively, in the Cumulative PM peak hour conditions with the CIP improvements.

The TIA analyzed queuing impacts for nine intersections that would perform at an LOS D or worse under the Cumulative Conditions scenario. **Table 17-4** summarizes the queuing impacts at these nine intersections during AM and PM peak hours within the Existing Conditions, Project Completion Conditions, and Cumulative Conditions scenarios. As shown in **Table 17-4**, the project has the potential to create or contribute to existing queuing capacity deficiencies at six of the studied intersections. Deficient queueing can be improved either with striping modifications at intersections or through Intelligent Transportation Systems (ITS). The City of Wildomar has adopted ITS program which would improve deficient queueing operations to satisfactory operations.

Within the City of Wildomar, as a Condition of Approval, the project would be required to contribute to the ITS program which is used by the City to resolve queueing operations at impacted intersections as traffic conditions evolve. ITS uses various methods, such as intersection cameras, loop detection, and timing modifications to optimize intersection operations in real time. For intersections within the City of Murrieta (Nutmeg St/Clinton Keith Rd and California Oaks Rd/Clinton Keith Rd) the project will contribute payment to City of Murrieta CIP #8283 (Traffic Striping Modifications – Citywide). CIP #8283 is an ongoing program for removal and restriping to modify traffic control in accordance with changing traffic demands citywide and the applicant would work with the City to address queuing in the City of Murrieta with striping improvements.

Table 11 in Appendix 16 identifies the project's fair-share to contribute towards ITS program along with its fair-share for LOS improvements. Within the City of Wildomar and the City of Murrieta, these improvements would resolve LOS and/or queueing deficiencies. Impacts would be less than significant.

b) Less Than Significant Impact. According to CEQA Guidelines Section 15064.3 subdivision (b), vehicle miles traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. The City of Wildomar's Vehicle Miles Travelled (VMT) CEQA Threshold Policy Guidelines allows mixed use projects with at least 30 percent residential to screen from requiring a VMT analysis (EDP 2021b)). This guideline follows the Office of Planning and Research's Guidelines on Evaluating Transportation Impacts in CEQA, which notes that projects which incorporate density, a mix of uses, and transit accessibility will tend to exhibit lower VMT when compared to developments without these features (OPR 2018). The proposed mixed-use development encompasses 4.47 acres of residential space and 4.53 acres of commercial space which makes the project approximately 49 percent residential. Therefore, the proposed development would screen from requiring a VMT analysis and the project's contribution to VMT can be considered less than significant.

c) Less Than Significant Impact. The project proposes the construction of six new driveways to accommodate the project's uses. Catt Road would be extended east of Arya Road to function as a driveway for gated entry/exit into the residential portion of the site and extend further east along the south border to provide entry/exit to the commercial portion of the project. In addition, the project proposes four other entrances/exits along the eastern border of the site from Wildomar Trail. Three of these entrances/exits would serve the commercial portion and the fourth is a gated access point to serve

the multi-family apartment community. The northern most driveway on Wildomar Trail providing access to the grocery store would primarily be used for truck access. Trucks would not be utilizing any other driveway to access the project site. The other three commercial project driveways are accessible to passenger vehicles. The multifamily development has direct pedestrian access to the shopping center through a gated central access that opens onto the plaza in front of the grocery store.

As part of the project's frontage improvements, Clinton Keith Road will be expanded to six-lanes immediately adjacent to the project site. A northbound left turn lane and a two-way stage gap acceptance or two-way-left-turn lane for the eastbound left lane that turns out of the project driveway will also be included at the intersection of Wildomar Trail and Project Driveway 4 as shown on Figure 2B of Appendix 16.

The City of Wildomar implements development standards designed to ensure standard engineering practices are used for all improvements. These features of the proposed project would be reviewed for compliance with these standards as part of the City's review process. Additionally, the implementation of the recommended roadway improvements and adherence to all applicable standards will ensure that roadway hazards are reduced, and impacts are less than significant.

Table 17-3 Recommended Improvements for Traffic Impacts											
Intersection	**Jurisdiction**	**Control Type**	**Cumulative Impacts**				**Recommended Improvements**	**With Improvements**			
			AM Peak		**PM Peak**			**AM Peak**		**PM Peak**	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]		Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Wildomar Trail/Clinton Keith Road	Wildomar	Signal	57.0	E	140.3	F	Restripe WBR to WBTR as per CIP. Signal Phasing: Change SBL and NBL signal permissive phasing to protected permissive. Overlap SBR.	24.4	C	90.2	F
2. Inland Valley Drive/Clinton Keith Road	Wildomar	Signal	96.9	F	210.1	F	Geometric improvements as per CIP include addition of WBT, and EBT receiving lane. CIP also includes Signal Modification.	17.9	B	76.5	E
6. Palomar Road/ Clinton Keith Road	Wildomar	Signal	69.7	E	26.5	D	Geometric improvements as per CIP include addition of 2nd EBL, modification of EBR to EBTR. Modification of WBT to WBTR. Modification on NBTR to NBT and addition of NBR. Addition of 2nd SBL.	35.9	D	--	--
9. Arya Road/ Clinton Keith Road	Wildomar	Signal	33.7	C	206.8	F	Restripe NBTL to NBL and NBR to NBTR, SBLTR to SBL. Add SBTR. Signal Phasing: Change NB SB permissive phasing to split phasing	--	--	51.0	D
12. Wildomar Trail/Project Driveway 4	Wildomar	TWSC	32.2	D	86.5	F	Add Two Stage Gap Acceptance for EBL approach out of Project Driveway.	--	--	18.3	C

Source: EDP Solutions, Inc. 2022 (Appendix 16)
[1] Delay in Seconds
[2] Level of Service
EBL = eastbound left
WBR = westbound right
WBTR = westbound through-right
SBL = southbound left
NBL = northbound left
SBR = southbound right
WBT = westbound through
NBR = northbound right
NBLR = northbound left/right
EBR = eastbound right
EBTR = eastbound through right
WBL = westbound left
EBL = eastbound left
SBT = southbound through
SBTR = southbound through-right
NBTL = northbound through-left
NBTR = northbound through-right
SBLTR = southbound left-through-right
SBTL = southbound through-left
TWSC = Two-Way Stop Controlled
= Unsatisfactory Intersection Operation

Table 17-4 Project Queueing Impacts

Intersection	Turning Movement	Available Queue Length (ft)	Existing		Project Completion		Cumulative	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
			Required Queueing (ft)	Required Queueing (ft)	Required Queueing (ft)	Required Queueing (ft)	Required Queueing (ft)	Required Queueing (ft)
1.Wildomar Trail/Clinton Keith Road	NBL	125	86	87	82	81	76	73
	SBL	95	216	148	319	291	690	1,304
	SBR	95	284	160	291	190	471	381
	EBL	165	220	308	255	382	480	1,238
	EBR	525	146	222	197	290	403	766
	WBL	330	97	218	99	225	99	224
	WBR	255	19	27	66	104	199	404
2. Inland Valley Drive/Clinton Keith Road	NBR	185	37	124	46	36	43	297
	EBU	300	0	0	0	0	0	0
	WBL	225	207	43	79	86	72	440
	NBL	190	81	81	92	97	146	211
	NBR	190	219	259	224	267	188	227

3. Nutmeg Street/ Clinton Keith Road	SBL	65	94	104	98	107	84	94
	EBL	215	26	78	39	102	104	298
	WBL	235	349	342	386	360	386	360
4. California Oaks Road/Clinton Keith Road	NBL	275	114	160	126	175	204	251
	NBR	275	186	284	191	296	191	295
	WBL	225	682	534	745	600	745	600
6. Palomar Road/Clinton Keith Road	NBL	265	60	85	62	88	62	88
	SBL	300	465	396	517	435	517	435
	SBR	190	65	119	79	144	129	304
	EBL	150	319	257	354	284	725	513
	EBR	105	41	30	41	29	38	26
	WBL	250	91	107	95	112	95	112
	WBR	250	380	258	401	267	416	267
9. Arya Road/Clinton Keith Road	SBLTR	142	32	129	72	432	200	1,068
	EBL	285	95	77	138	171	173	342
	WBL	345	140	190	145	203	145	203
	WBR	200	419	502	441	579	689	1,859
10. Arya Road/Catt Road	NBLR	110	0	0	17	14	26	32
	WBTL	220	0	0	7	7	7	7
11. Wildomar Trail/Project Driveway 3	EBR	75	0	0	4	6	14	17
12. Wildomar Trail/Project Driveway 4	NBL	104	0	0	7	9	9	16
	EBL	140	0	0	7	10	11	34

Source: EDP Solutions, Inc. 2022 (Appendix 16)

Indicates queuing required greater than storage available

NBL = northbound left
SBL = southbound left
EBL = eastbound left
WBL = westbound left
NBR = northbound right
EBU = eastbound U-turn
SBR = southbound right

EBR = eastbound right
WBR = westbound right
SBLTR = southbound left-through-right

d) Less Than Significant with Mitigation Incorporated. The proposed project would provide six driveways. Access to the project site would be reviewed by the City and the CAL FIRE / Riverside County Fire Department to ensure there is sufficient emergency access provided at the site as required by the City of Wildomar Municipal Code 8.28, Fire Code, for compliance with the California Fire Code. The project would also be responsible for implementing mitigation measure **TRF-1**, as shown in the Clinton Keith Widening IS/MND (SCH # 200910103). Impacts would be less than significant with mitigation incorporated.

STANDARD CONDITIONS AND REQUIREMENTS

1. Prior to issuance of any building permit on the project site, the project applicant/developer shall pay all development impact fees (Wildomar Municipal Code Section 3.44).
2. Prior to issuance of any building permit on the project site, the project applicant/developer shall demonstrate payment of the Western Riverside Transportation Uniform Mitigation Fee (Wildomar Municipal Code Section 3.40).
3. The proposed project will have a condition of approval that would improve a portion of the north side of Clinton Keith Road between the intersection with Wildomar Trail and Arya Road. The improvement will move the existing curb and gutter north to allow buildout of a third lane. A portion of the third lane already exists and the movement of the curb is needed to ensure that the existing bike lane can remain. The improvement is part of the City's Capital Improvement Program CIP 025 Clinton Keith Widening and the impacts were addressed in an IS/MND adopted by Riverside County (SCH# 200910103). The proposed project would only be responsible for the improvements if it is constructed before the City on the project.
4. The City will also require the project to construct or pay its fair-share to implement the following improvements at seven intersections that would experience unsatisfactory Level of Service and/or queuing impacts during the existing plus project and/or cumulative plus project scenarios:
    - **Intersection of Wildomar Trail and Clinton Keith Road:** Construct improvements as per the approved Capital Improvement Project at this intersection. Improvements include the addition of westbound through receiving lane at project frontage and the modification of westbound right lane to westbound through right lane. Signal modifications include changing southbound left lane and northbound left lane signal permissive phasing to protected permissive and overlapping southbound right lane. In the event the CIP improvements are constructed before the project is constructed, the project would contribute fair-share to improvements at this intersection.
    - **Intersection of Inland Valley Drive and Clinton Keith Road:** Project would contribute fair-share to the CIP at this intersection which improves the intersection to a 4-lane intersection. Improvements include addition of westbound through lane and eastbound through lane receiving lane.
    - **Intersection of Palomar Road and Clinton Keith Road:** Project would contribute fair-share to intersection improvements as per approved CIP at this intersection. Improvements as per CIP

include addition of 2nd eastbound left lane, modification of eastbound right lane to eastbound through right lane. Modification of westbound through lane to westbound through right lane. Modification on northbound through right lane to northbound through lane, addition of northbound right lane and addition of 2nd southbound left lane. The project's fair-share contributions would be limited to the 2nd southbound left lane improvement on Clinton Keith Road which would include widening the road to shift the southbound right lane further northwest.

- **Intersection of Arya Road and Clinton Keith Road:** Construct improvements or provide fair-share as per approved Westpark Promenade Conditions of Approval. Improvements include northbound striping to provide dedicated northbound left lane and northbound through right lane, dedicated southbound left lane and southbound through right lane. Recommended signal modifications include changing northbound-southbound permissive phasing to protective permissive phasing. Project would construct improvements in the event that its construction commences before the construction of the adjacent Westpark Promenade project; otherwise, project would contribute fair-share for all improvements to this intersection as stated in Section 7.2. Improvements in the Traffic Impact Analysis (Appendix 16) would include widening of Arya Road to 4 lanes.
- The project would be required to contribute to the City's ITS program to mitigate queuing impacts at the impacted intersections shown in **Table 17-4** in Section V.17, Transportation.
- For intersections within the City of Murrieta (Nutmeg St/Clinton Keith Rd and California Oaks Rd/Clinton Keith Rd) the project will contribute payment to City of Murrieta CIP #8283 (Traffic Striping Modifications – Citywide). CIP #8283 is an ongoing program for removal and restriping to modify traffic control in accordance with changing traffic demands citywide and the applicant would work with the City to address queuing in the City of Murrieta with striping improvements.

5. As required by Municipal Code section 8.28, Fire Code, review of the project design by the City and CAL FIRE / Riverside County Fire Department is required to ensure adequate emergency access.

MITIGATION MEASURES

The following mitigation measure from the Clinton Keith Road Widening Project IS/MND (SCH# 200910103) would also be applicable to the proposed project (numbering is from 2009 IS/MND):

TRF-1 During final design, stage construction and detour plans will be prepared to minimize disruption to the traveling public. Such plans shall be prepared in consultation with affected local jurisdictions prior to construction. Adequate access shall be provided at all times to and from side streets serving adjacent land uses. To further ensure public safety, proper detours and warning signs shall be established. The stage construction and detour plans shall be designed to not interfere with any emergency response or evacuation plans, and construction routes shall utilize

non-residential streets to the extent practicable. Finally, such plans shall identify construction worker parking areas and equipment staging areas to minimize impacts to roadway operations.

Timing/Implementation: *During final design*

Enforcement/Monitoring: *City of Wildomar Building Department*

18. Tribal Cultural Resources

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or		✓		
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		✓		

DISCUSSION

a

i, ii) Less Than Significant Impact with Mitigation Incorporated. The project site does not contain any structures or resources that are listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k) (see section V.5, above).

In accordance with Senate Bill (SB) 18, the Native American Heritage Commission was contacted to obtain a list of tribes that may have cultural association with the project site and its local vicinity. Assembly Bill (AB) 52 established a formal consultation process for California tribes within the CEQA process. The Bill specifies that any project that may affect or cause a substantial adverse change in the significance of a tribal cultural resource would require a lead agency to "begin consultation with a California Native American tribe that is traditional and culturally affiliated with the geographic area of the proposed project." Section 21074 of AB 52 also defines

tribal cultural resources as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and that are either listed on, or eligible for, the California Register of Historical Resources or a local historic register, or the lead agency chooses to treat the resource as a significant resource.

The City notified tribes that requested to be alerted of new projects in 2021, which included the Morongo Band of Mission Indians, Pechanga Band of Mission Indians, Rincon Band of Luiseño Indians, and Soboba Band of Mission Indians, and pursuant to SB 18, the City notified tribes on the list obtained from the Native American Heritage Commission on December 10, 2021. The Rincon Band of Luiseño Indians and the Soboba Band of Luiseño Indians responded. The Rincon Band of Luiseno Indians notified the City on December 29, 2021 that the identified location of the project is within the Traditional Use Area of the Luiseño people and that the tribe agrees with the measures proposed in the Cultural Resources Assessment, which include archaeological and tribal monitoring for all ground disturbing activities, a monitoring report, and protocols for discovery of cultural material and human remains. The Rincon Band supports all efforts to completely avoid cultural resources as preferred mitigation and requests to be notified of any changes in the project plans.

The Soboba Band of Luiseño Indians stated in a letter to the City on January 10, 2022, that the project area is considered sensitive by the people of Soboba, as there are existing Tribal Traditional Use Areas in the surrounding areas. Their in-house database search identified multiple areas of potential impact. For these reasons, the tribe requested consultation with the City. The City of Wildomar consulted with the Pechanga Band of Mission Indians on January 20, 2022 and consulted with the Soboba Band of Luiseno Indians on January 13, 2022. The City reached out to the tribes again on March 8th, 2022 and March 18th, 2022 but the tribes did not respond.

The City works closely with the tribes and consults on all projects before the City. The Pechanga Band of Mission Indians provided cultural and tribal mitigation measure language which the Soboba Band of Mission Indians agreed upon. These mitigation measures have been incorporated into this IS/MND.

With the inclusion of mitigation measures **TRI-1** through **TRI-7** and **CUL-1**, impacts to tribal cultural resources would be mitigated to a less than significant impact with mitigation incorporated.

STANDARD CONDITIONS AND REQUIREMENTS

None required.

MITIGATION MEASURES

Refer to mitigation measure **CUL-1** in section V.5 of this document.

TRI-1 **Inadvertent Archeological Find.** If during ground disturbance activities, cultural resources are discovered that were not assessed by the archaeological report(s) and/or environmental assessment conducted prior to project approval, the following procedures

shall be followed. Cultural resources are defined, as being multiple artifacts in close association with each other, but also include fewer artifacts if the area of the find is determined to be of significance due to its sacred or cultural importance as determined in consultation with the lead agency and Native American Tribe(s) that elected to consult under AB 52 ("Consulting Tribe(s)").

a. All ground disturbance activities within 100 feet of the discovered cultural resources shall be halted until a meeting is convened between the developer, the archaeologist, the tribal representative(s) and the Planning Director to discuss the significance of the find.
b. At the meeting, the significance of the discoveries shall be discussed and after consultation with the tribal representative(s), developer, and the archaeologist, a decision shall be made, with the concurrence of the Planning Director, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources.
c. Grading or further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation. Work shall be allowed to continue outside of the buffer area and will be monitored by additional Tribal monitors if needed.
d. Treatment and avoidance of the newly discovered resources shall be consistent with the Treatment and Monitoring Agreements entered into with the Consulting Tribe(s) and the applicant. This may include avoidance of the cultural resources through project design, in-place preservation of cultural resources located in native soils and/or re-burial on the Project property so they are not subject to further disturbance in perpetuity as identified in Mitigation Measures TRI-2 and TRI-7.
e. If the find is determined to be significant and avoidance of the site has not been achieved, a Phase III data recovery plan (see Mitigation Measure TRI-6) shall be prepared by the project archeologist, in consultation with the Consulting Tribe(s), and shall be submitted to the City for their review and approval prior to implementation of the said plan.
f. Pursuant to Calif. Pub. Res. Code § 21083.2(b) avoidance is the preferred method of preservation for archaeological resources and tribal cultural resources. If the landowner and the Consulting Tribe(s) cannot agree on the significance or the mitigation for the archaeological or tribal cultural resources, these issues will be presented to the Planning Director for decision. The City's Planning Director shall make the determination based on the provisions of the California Environmental Quality Act with respect to archaeological and tribal cultural resources, recommendations of the project archeologist, and shall take into account the cultural and religious principles and practices of the Consulting Tribe(s). Notwithstanding any other rights available under the law, the decision of the City Planning Director shall be appealable to the City Planning Commission and/or City Council.

Timing/Implementation: *During any ground-disturbing or construction activities*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Planning Department*

TRI-2 **Cultural Resources Disposition.** In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries:

a. One or more of the following treatments, in order of preference, shall be employed with the Consulting Tribe(s). Evidence of such shall be provided to the City of Wildomar Planning Department:

   i. Preservation-In-Place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place where they were found with no development affecting the integrity of the resources.

   ii. Reburial of the resources on the Project property. The measures for reburial shall include, at least, the following: Measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed, with an exception that sacred items, burial goods and Native American human remains are excluded. Any reburial process shall be culturally appropriate. Listing of contents and location of the reburial shall be included in the confidential Phase IV report (see Mitigation Measure TRI-6). The Phase IV Report shall be filed with the City under a confidential cover and not subject to Public Records Request.

   iii. If preservation in place or reburial is not feasible then the resources shall be curated in a culturally appropriate manner at a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees by the Applicant necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the landowner to the City. There shall be no destructive or invasive testing on sacred items, burial goods, and Native American human remains, as defined by the cultural and religious practices of the Most Likely Descendant. Results concerning finds of any inadvertent discoveries shall be included in the Phase IV monitoring report.

Timing/Implementation: *During grading activities*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Planning Department*

TRI-3 **Archaeologist Retained.** Prior to issuance of a grading permit the project applicant shall retain a Riverside County qualified Registered Professional Archaeologist (RPA), to monitor all ground disturbing activities in an effort to identify any unknown archaeological resources.

The Registered Professional Archaeologist and the Tribal monitor(s) required by Mitigation Measures TRI-4 and TRI-5 shall manage and oversee monitoring for all initial ground disturbing activities and excavation of each portion of the project site including clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, structure demolition and etc. The Registered Professional Archaeologist and the Tribal monitor(s), shall independently have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources in coordination with any required special interest or tribal monitors.

The developer/permit holder shall submit a fully executed copy of the contract to the Planning Department to ensure compliance with this condition of approval. Upon verification, the Planning Department shall clear this condition.

In addition, the Registered Professional Archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, shall develop a Cultural Resources Management Plan (CRMP) in consultation pursuant to the definition in AB 52 to address the details, timing and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB 52 tribal consultation process for the Project, has not opted out of the AB 52 consultation process, and has completed AB 52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB52. Details in the Plan shall include:

a. Project grading and development scheduling;

b. The Project archaeologist and the Consulting Tribes(s) shall attend the pre-grading meeting with the City, the construction manager and any contractors and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The Training will include a brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the Project following the initial Training must take the Cultural Sensitivity Training prior to beginning work and the Project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis;

c. The protocols and stipulations that the contractor, City, Consulting Tribe(s) and Project archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.

Timing/Implementation: Prior to issuance of grading permit

Enforcement/Monitoring: City of Wildomar Engineering Department and Planning Department

TRI-4 **Native American Monitoring (Pechanga).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Pechanga Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land divider/permit holder for the monitoring of the project to the Planning Department and to the Engineering Department. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the Project Archaeologist.

Timing/Implementation: During ground-disturbing activities

Enforcement/Monitoring: City of Wildomar Engineering Department and Planning Department

TRI-5 **Native American Monitoring (Soboba).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Soboba Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land divider/permit holder for the monitoring of the project to the Planning Department and to the Engineering Department. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the Project Archaeologist.

Timing/Implementation: During ground-disturbing activities

Enforcement/Monitoring: City of Wildomar Engineering Department and Planning Department

TRI-6 **Archeology Report - Phase III and IV.** Prior to final inspection, the developer/permit holder shall prompt the Project Archeologist to submit two (2) copies of the Phase III Data Recovery report (if required for the Project) and the Phase IV Cultural Resources Monitoring Report. The Phase IV report shall include evidence of the required cultural/historical sensitivity training for the construction staff held during the pre-grade meeting. The Planning Department shall review the reports to determine adequate mitigation compliance. Provided the reports are adequate, the Community Development Department shall clear this condition. Once the report(s) are determined to be adequate,

two (2) copies shall be submitted to the Eastern Information Center (EIC) at the University of California Riverside (UCR) and one (1) copy shall be submitted to the Consulting Tribe(s) Cultural Resources Department(s).

Timing/Implementation: *Prior to final inspection*

Enforcement/Monitoring: City of Wildomar Engineering Department and Planning Department

TRI-7 **Non-Disclosure of Reburial Locations**. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or associated grave goods shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, pursuant to the specific exemption set forth in California Government Code 6254 (r)., parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code 6254 (r).

Timing/Implementation: *During discovery of Native American human remains*

Enforcement/Monitoring: *City of Wildomar Engineering Department and Planning Department*

19. Utilities and Service Systems

Issues, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✓	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			✓	
c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			✓	

DISCUSSION

a,c) **Less Than Significant Impact.**

Wastewater Treatment

The EVMWD currently operates three wastewater treatment facilities: The Regional Water Reclamation Facility (WRF), the Horsethief Canyon Wastewater Treatment Plant (WWTP), and the Railroad Canyon WWTP (EVMWD 2021). In addition, flow in the southern part of the EVMWD's service area is treated at the Santa Rosa Water Reclamation Facility operated by the Rancho California Water District. The project site is within the Regional WRF wastewater collection area (EVMWD 2021).

To determine future demand for wastewater facilities, the EVMWD relies on recommended generation factors specified in the 2016 Sewer System Master Plan. The recommended generation rates are determined according to land use designation. The wastewater generation rate in Table 4-8, Calibrated Wastewater Duty and Generation Factors, of the 2016 Sewer System Master Plan is 1,094 gallons per day (gpd)/acre for High Density Residential (12-24 du/acre) and 806 gallons per day (gpd)/acre for General Commercial (EVMWD 2016). The residential portion of the site covers 4.48 acres and the commercial portion covers 4.53 acres, therefore, the proposed wastewater generation for the site would be 4,901 gpd and 3,651 gpd, respectively, totaling 8,552 gpd.

The proposed project would connect to a 16-inch gravity sewer line that is present in Catt Road and as well as an 8-inch sewer main in Wildomar Trail. The project site is located within the Regional Water Reclamation Facility (WRF) service area. The Regional WRF has an average daily intake of 5.46 million gallons per day (mgd) with a flow capacity of 8 mgd and a peak flow capacity of 17.6 mdg (EVMWD 2016). Therefore, the Regional WRF has an excess daily intake capacity of approximately 2.54 mgd. In addition, the RWRF also has a planned capacity expansion to 4 mgd (EVMWD 2021).

The proposed project would result in an increase of approximately 0.0034 percent[5] of the remaining wastewater flow capacity of the Regional WRF and would be even less with implementation of the future expansion of the WRF. Therefore, based on wastewater generated by the project, the current capacity of the Regional WRF would be able to accommodate the wastewater flows generated from the proposed project. The proposed project impacts to wastewater treatment are less than significant.

Water Treatment

Water treatment facilities filter and/or disinfect water before it is delivered to customers. The EVMWD supplies water to the surrounding area and would supply water to the project site. Water line improvements at the project site would be constructed in accordance with Title 13, Public Services, of the Wildomar Municipal Code.

EVMWD purchases water from the Western Municipal Water District (WMWD) via Western Municipal Water District (western). The imported water is a blend of Colorado River water, State Project Water, and local Western supplies (EVMWD 2021).

The water treatment facilities, their capacities, and remaining available treatment capacities are shown in **Table 19-1**, EVMWD Water Treatment Facilities.

[5] 8,552 gpd / 2,540,000 gpd = 0.003367 = 0.0034 percent.

Table 19-1 EVMWD Water Treatment Facilities			
Treatment Plant	**Capacity (mgd)**	**Maximum Flow (mgd)**	**Remaining Treatment Capacity (mgd)**
Canyon Lake Water Treatment Plant	7	7	0
Skinner Filtration Plant (via the Auld Valley Pipeline)	20.2	14.5	5.7
Mills Filtration Plant (via the Temescal Valley Pipeline)	12.7	8.9	3.8
Total:	39.9	30.4	**9.5**
Source: EVMWD 2021			

As shown in **Table 19-1**, the EVMWD water treatment facilities have a remaining water treatment capacity of approximately 9.5 mgd. Based on water generations rates in Table 4-8, Calibrated Wastewater Duty and Generation Factors, of the Sewer System Master Plan, the water duty factors for the site's uses would be 1,900 gpd/acre for High Density Residential (12-24 du/ac) and 1,500 gpd/acre for General Commercial (EVMWD 2016). The total proposed water demand for both uses covering 9.01 acres of the site would be 15,307 gpd (EVMWD 2016). This is approximately 0.17 percent[6] of the remaining treatment capacity of the EVMWD water treatment facilities. Therefore, based on water demands of the project, the current capacity of the EVMWD treatment facilities would be able to accommodate the water demands generated from the proposed project. The proposed project impacts to water treatment is less than significant.

Stormwater Drainage

Stormwater drainage impacts are addressed in section V.10.c.iii, above. The proposed development would be approximately 90 percent impervious (DRC 2022). The proposed development consists of two drainage areas both of which will be picked up by a separate backbone drainage system (DRC 2022). The storm water will be treated by four modular wetland biofiltration BMP flow-rate based units and hydrodynamic separators before entering the underground detention chambers (DRC 2022). Outflow from each underground detention basin will be metered by an outlet control manhole with a weir plate then discharge in the County's Line 'GG', across Clinton Keith Road via a double 60-inch RCP storm drain into the RCFC and WCD regional drainage facility (DRC 2022b). Additionally, the BMP facilities implemented by the proposed project would improve water quality and reduce runoff. Impacts are less than significant. Stormwater drainage improvements would not exceed the capacity of storm drain systems, in accordance with the City of Wildomar Municipal Code Section 13.12.050 and the MS4 Permit from the San Diego Regional Water Quality Control Board.

[6] 15,307 gpd / 8,800,000 gpd = 0.00173943 = 0.17 percent.

Electricity and Natural Gas

The project site would require connection to utilities such as natural gas lines in the vicinity of the site in accordance the installation requirements of City of Wildomar Municipal Code Section 16.40.010. The applicant would be responsible for payment of electricity and gas connections as well as use of the utility. As described in section V.6, Energy, the project would not result in energy use such that new or expanded facilities is required. Therefore, impacts are less than significant.

b) Less Than Significant Impact. The project site is within the service boundary for the EVMWD. The EVMWD utilizes both groundwater and imported water supplies to ensure adequate water is available for consumers. Imported water is utilized to ensure that significant overdraft of local groundwater supplies does not occur. Imported water is obtained from the Metropolitan Water District, local surface water from Canyon Lake, and local groundwater from the Elsinore Basin. Since the adoption of the 2005 Groundwater Management Plan, EVMWD has limited pumping to 5,500 acre-ft/year to be consistent with the safe yield of the Elsinore Groundwater Basin (EVMWD 2021). The EVMWD has the ability to obtain a capacity of 26,296 acre-feet per year (23.4 mgd) during average years and wet years (EVMWD 2021).

As shown in the 2020 Urban Water Management Plan, the projected 2025 water demand and supply would be 38,932 acre-feet per year and 47,218 acre-feet per year, respectively (EVMWD 2021). Therefore, the supply would exceed the demand by 8,286 acre-feet/year. Thus, this impact is less than significant because there would be sufficient water supply to service the proposed project.

The California State Model Water Efficient Landscape Ordinance (MWELO) requires local agencies to adopt, implement, and enforce the MWELO or a local Water Efficient Landscape Ordinance (WELO) that is at least as effective as the MWELO. Chapter 17.276 of the City of Wildomar Municipal Code implements the MWELO and requires that a landscape documentation package be submitted to the City for review and approval prior to the issuance of any permits to install or construct any landscape-related improvements. This ensures that landscapes are planned, designed, installed, maintained, and managed in a manner that uses water efficiently, encourages water conservation, and prevents water waste. Compliance with the City's ordinance would additionally help to reduce impacts on water supplies and ensure that water resources would be available for the foreseeable future of the project.

d) Less Than Significant Impact. The main solid waste disposal site that would serve the project site is the El Sobrante Landfill in Corona. The landfill is projected to reach its full capacity of 209,910,000 cy in 2051 (CalRecycle 2019a). The landfill covers approximately 1,322 acres and has a maximum permitted throughput of approximately 16,054 tons/day (CalRecycle 2019a). The El Sobrante Landfill has a remaining capacity of 143,977,170 tons (CalRecycle 2019a).

The California Department of Resources Recycling and Recovery's (CalRecycle) sample solid waste generation rates for residential uses is 12.23 pounds per household per day and 2.5 pounds per 1,000 square feet per day for the retail and restaurant uses (CalRecycle 2019b). Therefore, the proposed apartments would generate 1,834.5 lb/day of solid waste (12.23 lb x 150 apartments) and the commercial center would generate 885.55 lb/day of solid waste (0.0025 lb x 35,422 square feet) for a total of 1,923 lb/day.

This increase would be 0. 006 percent[7] of the landfill's daily maximum permitted throughput and could be accommodated. Therefore, the project impacts on landfill capacity are less than significant**.**

e) Less Than Significant Impact. Solid waste would be generated during construction and operation of the proposed project. The Solid Waste Reuse and Recycling Access Act of 1991 requires that adequate areas be provided for collecting and loading recyclable materials such as paper, products, glass, and other recyclables. City of Wildomar Municipal Code Section 8.104 regulates solid waste handling and mandates that sufficient receptacles be in place onsite to accommodate refuse and recycling. Compliance with state law and the City's Municipal Code would ensure the project would result in a less than significant impact.

STANDARD CONDITIONS AND REQUIREMENTS

1. As required by City of Wildomar Municipal Code Section 13.12.050, Regulatory Consistency, and the MS4 Permit from the San Diego Regional Water Quality Control Board, stormwater drainage improvements must be consistent and in accordance with these provisions.
2. As required by City of Wildomar Municipal Code Section 16.40.10, Installation Requirements, the project would comply with the installation requirements for undergrounding utilities.
3. As required by City of Wildomar Municipal Code Section 8.104, Solid Waste Collection and Disposal, the generation, accumulation, handling, collection, transportation, conversion, and disposal of solid waste must be controlled and regulated through the provisions of this chapter.
4. As required by City of Wildomar Municipal Code Section 17.276.060, a landscape documentation package shall be submitted and approved prior to installation of any landscaping.

MITIGATION MEASURES

None required.

[7] 1,923 lb/day = 0.96 ton/day

0.96 tons/day / 16,054 tons/day = 0.0000598 or 0.00598 percent.

20. Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?		✓		
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?		✓		
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			✓	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			✓	

a) Less Than Significant Impact With Mitigation Incorporated. California Government Code Chapter 6.8 directs the California Department of Forestry and Fire Protection (CALFIRE) to identify areas of very high fire hazard severity within Local Responsibility Areas (LRA). Mapping of the areas, referred to as Very High Fire Hazard Severity Zones (VHFHSZ), is based on data and models of potential fuels over a 30- to 50-year time horizon and their associated expected fire behavior and expected burn probabilities, which quantifies the likelihood and nature of vegetation fire exposure to buildings. LRA VHFHSZ maps were initially developed in the mid-1990s and are now being updated based on improved science, mapping techniques, and data. In 2008, the California Building Standards Commission adopted California Building Code Chapter 7A requiring new buildings in Very High Fire Hazard Severity Zones to use ignition-resistant construction methods and materials.

The eastern and western portions of the City of Wildomar have been designated Very High Fire Hazard Severity Zones (VHFHSZ). The project site is within a VHFHSZ within the LRA (CALFIRE 2009). Development on the project site would be subject to compliance with the 2019 CBC. Wildomar is covered under the Riverside County Operational Area Emergency Operations Plan (2019) and the Riverside County Operation Area Multi-Jurisdictional Local Hazard Mitigation Plan (2012). These plans provide guidance to effectively

respond to any emergency, including wildfires. In addition, all proposed construction is required to meet minimum standards for fire safety. Implementation of these plans and policies in conjunction with compliance with the Fire Code would minimize the risk of loss due to wildfires.

Development on the project site would be subject to compliance with the CBC. Moreover, the City of Wildomar is under the Riverside County Operational Area Multi-Jurisdictional Local Hazard Mitigation Plan, which provides guidance to effectively respond to and mitigate emergencies, including wildfires. Furthermore, the proposed project would not conflict with adopted emergency response or evacuation plans. The surrounding roadways would continue to provide emergency access to the project site and surroundings during construction and postconstruction. In addition, as with all projects in the City of Wildomar, mitigation measures **HAZ-3** and **HAZ-4**, which require conformance with the CBC and Fire Code, would be implemented. Therefore, impacts are considered less than significant with mitigation incorporated.

b) Less Than Significant with Mitigation Incorporated. The project site is primarily vacant with the exception of a single-family residential structure and additional remnant structures associated with the residence. The majority of the site contains ruderal/weedy vegetation as well as several trees. The topography of the site is gently to moderately sloped from the north to the south. The City does not have high-speed prevailing winds, and average wind speeds are approximately 6 miles per hour during the windier part of the year, from November to June (Weather Spark 2022).

Development of the site with the proposed improvements would reduce the amount of exposed vegetation that could be used as fuel on the site. Therefore, the project and site conditions would not contribute to an increase in exposure to wildfire risk. Additionally, development on the project site would be subject to compliance with the CBC. Moreover, the City of Wildomar is under the Riverside County Operational Area Multi-Jurisdictional Local Hazard Mitigation Plan, which provides guidance to effectively respond to and mitigate emergencies, including wildfires. The project site is within a VHFHSZ, and as with all projects in the City of Wildomar, mitigation measures **HAZ-3** and **HAZ-4,** which require conformance with the CBC and Fire Code, would be implemented. Therefore, impacts are considered less than significant with mitigation incorporated.

c) Less Than Significant Impact. The project site would require expansion of connection to utilities such as electricity, water, and sewer. The project applicant is required to pay for connections and maintenance of onsite utility infrastructure. The utilities would be installed to meet service requirements. The construction of infrastructure improvements for the project would not directly increase fire risk, and impacts are less than significant.

d) Less Than Significant Impact. As discussed in Section V.7 and V.10 respectively, above, the project site is not within a landslide hazard area or a flood plain. Historical geographic mapping does not show any flooding or safety concerns caused by the drainage. Construction activities related to the proposed project would be subject to compliance with the CBC and would include BMPs. BMPs may include but are not limited to covering of the soil, use of a dust-inhibiting material, landscaping, use of straw and jute, hydroseeding, and grading in a pattern than slows stormwater flow and reduces the potential for erosion,

landslides, and downstream flooding. Operationally, drainage at the project site would be match existing conditions. Therefore, with implementation of BMPs, impacts are less than significant.

STANDARD CONDITIONS AND REQUIREMENTS

None Required.

MITIGATION MEASURES

Implementation of mitigation measures **HAZ-3** and **HAZ-4** in Section V.9 of this document.

VI. MANDATORY FINDINGS OF SIGNIFICANCE

Issues, does the project:	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)		✓		
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

DISCUSSION

The following mandatory findings of significance are in accordance with CEQA Guidelines Section 15065.

a) Less Than Significant Impact with Mitigation Incorporated. Based on the evaluations and discussion in this IS/MND, the proposed project has a very limited potential to incrementally degrade the quality of the environment. As discussed in Section V.3, Air Quality, implementation of mitigation measures **AQ-1** and **AQ-2**, would reduce emissions from the construction phase of the project to less than significant. Additionally, as discussed in Section V.4, Biological Resources, implementation of mitigation measures **BIO-1** and **BIO-2** would require surveys for nesting birds and burrowing owls, reducing impacts to biological resources to less than significant. As discussed in Section V.5, Cultural Resources, with implementation of mitigation measures **CUL-1** and **TRI-1** through **TRI-7,** the proposed project would have

a less than significant impact on archaeological resources. Furthermore, as discussed in Section V.7, Geology and Soils, the proposed project would have a less than significant impact on geological and paleontological resources with implementation of mitigation measure **GEO-1**, which requires the project to incorporate recommendations of the geotechnical report, and **GEO-2**, which requires a paleontological grading observation schedule during grading. Moreover, with implementation of mitigation measures **CUL-1** and **TRI-1** through **TRI-7**, the proposed project would have a less than significant impact to tribal cultural resources. Implementation of **HAZ-1**, and **HAZ-2**, as discussed in section V.8, Hazards and Hazardous Materials, would ensure that the site is tested for hazardous materials and that if such materials are found, that they are removed safely. With implementation of **HAZ-3** and **HAZ-4**, as discussed in section V.8, Hazards and Hazardous Materials, and section V.20, Wildfire, the proposed project would result in a less than significant impact with respect to wildfire with conformance to building codes and City standards. The project may also include a roadway improvement on Clinton Keith Road between the intersection with Wildomar Trail and Arya Road, which is discussed in Section V.17, Transportation. The improvement is part of the City's Capital Improvement Program CIP 025 Clinton Keith Widening and the impacts were addressed in an IS/MND adopted by Riverside County (SCH# 200910103). The proposed project would only be responsible for the improvements if it is constructed before the City on the project. The project would also be responsible for implementing mitigation measure **NOI-1** and **TRF-1**, as shown in the Clinton Keith Widening IS/MND. These mitigation measures would reduce impacts with respect to construction noise and access. Therefore, the proposed project would not significantly affect the environment after implementation of the mitigation measures in this IS/MND. Therefore, any impacts would be considered less than significant with mitigation incorporated.

b) Less Than Significant Impact with Mitigation Incorporated.

Aesthetics

Implementation of the proposed project would not contribute to cumulative visual resource or aesthetic impacts. This project and other projects in Wildomar are required to comply with the City's light pollution ordinance. The project is proposed in a developing region of the City and is consistent with the proposed General Plan designation. While the proposed building may obscure views of surrounding ridgelines from the project site, the proposed project, in combination with other development in the vicinity would not significantly impact any scenic vistas. Therefore, the proposed project would have a less than cumulatively considerable impact to aesthetics.

Agriculture and Forestry Resources

Implementation of the proposed project would not result in any impacts to agriculture or forestry resources and would therefore not contribute to cumulative impacts to these resources.

Air Quality

The South Coast Air Quality Management District's approach for assessing cumulative impacts are based on the Air Quality Management Plan forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and California Clean Air acts. In other words, the South Coast AQMD considers projects that are consistent with the AQMP, which is intended to bring the basin

into attainment for all criteria pollutants, to also have less than significant cumulative impacts. The discussion under Issue a) in section V.3, Air Quality, describes the South Coast AQMD criteria for determining consistency with the AQMP and further demonstrates that the proposed project would be consistent with the plan.

Cumulative Short-Term Emissions

The SCAB is designated nonattainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards and nonattainment for O_3 and $PM_{2.5}$ for Federal standards. The project construction-related emissions by themselves would not have the potential to exceed the South Coast AQMD significance thresholds for criteria pollutants. Since these thresholds indicate whether individual project emissions have the potential to affect cumulative regional air quality, project-related construction emissions would not be cumulatively considerable. The South Coast AQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP pursuant to the federal Clean Air Act mandates. With the compliance of these strategies, the proposed project would not exceed thresholds by the South Coast AQMD.

South Coast AQMD rules, mandates, and compliance with adopted AQMP emissions control measures would also be imposed on construction projects throughout the air basin, which would include related projects. Compliance with South Coast AQMD rules and regulations would reduce the proposed Project construction-related impacts to a less than significant level. Therefore, project-related construction emissions, in combination with those from other projects in the area, would not substantially deteriorate the local air quality. Construction emissions associated with the proposed project would not result in a cumulatively considerable contribution to significant cumulative air quality impacts.

Cumulative Long-Term Impacts

The South Coast AQMD has not established separate significance thresholds for cumulative operational emissions. The nature of air emissions is largely a cumulative impact. As a result, no single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, individual project emissions contribute to existing cumulatively significant adverse air quality impacts. The South Coast AQMD developed the operational thresholds of significance based on the level above which individual project emissions would result in a cumulatively considerable contribution to the SCAB's existing air quality conditions. Therefore, a project that exceeds the South Coast AQMD operational thresholds would also be a cumulatively considerable contribution to a significant cumulative impact. With the implementation of applicable South Coast AQMD rules and regulations, the proposed project's operational emissions would not exceed South Coast AQMD thresholds as they would alleviate potential impacts related to cumulative conditions on a project-by-project basis. As a result, operational emissions associated with the proposed project would not result in a cumulatively considerable contribution to significant cumulative air quality impacts. Project operations would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant.

Biological Resources

The project site is primarily vacant and undeveloped, and is not located with a Criteria Cell, but is located within the Stephens' Kangaroo Rat Fee Plan Area and MSHCP Fee Area. No sensitive species were found

on-site, but the site could contain habitat for burrowing owls and nesting birds. Implementation of mitigation measures **BIO-1**, and **BIO-2** would minimize the potential take of these species and reduce impacts to less than significant. The proposed project also will pay the MSHCP and Stephens' Kangaroo Rat Plan Area fees as required to ensure that there would be a less than cumulatively considerable impact on biological resources.

Cultural Resources

Development of the project site would contribute to a cumulative increase in potential impacts to cultural and archaeological resources. Other projects in the region could demolish or otherwise alter cultural resources. However, mitigation measures **CUL-1** and **TRI-1** through **TRI-7** would reduce the potential impacts associated with development on the project site. Other projects in the region would be required to comply with CEQA Guidelines Section 15064.5, which requires the lead agency to determine if discovered resources are unique or historically significant, and if so, to avoid or mitigate impacts to such resources in accordance with the provisions of PRC Section 21083.2. Thus, the project would have a less than cumulatively considerable impact.

Energy

Construction and operation of the improvements would result in an increase in energy. Construction energy would be temporary and normal of development in the region. Section V.6, Energy, analyzed the project's cumulative contribution to energy in the region and determined the project would have a less than cumulatively considerable environmental impact to energy.

Geology and Soils

Project-related impacts on geology and soils associated with development on the project site are site specific, and project development would not contribute to seismic hazards or soil erosion. Implementation of mitigation measure **GEO-1** would result in decreased exposure to the risks associated with seismic activity, and implementation of mitigation measure **GEO-2** would ensure impacts to paleontological resources are reduced to a less than significant level. Therefore, impacts are expected to be less than cumulatively considerable**.**

Greenhouse Gas Emissions

The greenhouse gas analysis in section V.8, Greenhouse Gas Emissions, analyzed the proposed project's cumulative contribution to global climate change and determined that the project would have a less than cumulatively considerable environmental impact resulting from greenhouse gas emissions.

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed. Nevertheless, it is anticipated that operation of the proposed project would comply with all applicable measures that state lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050.

Hazards and Hazardous Materials

The proposed project is not expected to utilize or contribute to hazards associated with the accidental release of hazardous materials. The project site was found to contain stockpiles of soils of unknown origin and remnants of a former livestock operation, but implementation of mitigation measures **HAZ-1** and **HAZ-2** would require testing and removal of potentially hazardous materials and reduce impacts to less than cumulatively considerable. The project site is within a Very High Fire Hazard Severity Zone. Implementation of mitigation measures **HAZ-3** and **HAZ-4** would ensure that the proposed project complies with California Building Code, Fire Code, and City standards in regard to fire hazards. Compliance with federal, state, and local regulations would ensure that cumulative hazard conditions are less than cumulatively considerable.

Hydrology and Water Quality

Water quality measures included in the proposed project and the WQMP and SWPPP prepared for the project would protect the quality of water discharged from the site during both construction and operational activities and are intended to ensure impacts are not cumulatively considerable. The site is not located within a flood hazard zone. Therefore, the proposed project would have a less than cumulatively considerable impact related to hydrology.

Land Use and Planning

Implementation of the proposed project in conjunction with other cumulative development in accordance with the City's General Plan could cause citywide land use and general planning impacts. The proposed project would be consistent with the General Plan thereby reducing physical environmental impacts. Cumulative development projects in accordance with the General Plan would be subject to compliance with regional and local plans. Other cumulative development would be reviewed by the City to ensure general consistency with local land use plans. Therefore, the proposed project combined with related projects would not result in cumulatively considerable impacts to land use and planning.

Mineral Resources

The proposed project would have no impact related to mineral resources and would therefore not contribute to any cumulative impacts to such resources.

Noise

As discussed in section V.13, Noise, the proposed project would comply with all applicable noise standards and would have less than significant direct impacts related to construction and operational noise. It is possible that other construction projects in the vicinity could overlap with activity on the proposed project site, but other such projects are required to mitigate their construction noise impacts. Any combined impacts would be temporary, constituting intermittent annoyance perhaps, but not a significant cumulative noise impact. The project may also include a roadway improvement on Clinton Keith Road between the intersection with Wildomar Trail and Arya Road, the impacts of which are addressed in an IS/MND adopted by Riverside County (SCH# 200910103). The project would also be responsible for implementing mitigation measure **NOI-1**, as shown in the Clinton Keith Widening IS/MND, which would

reduce any construction noise impacts to less than cumulatively considerable. Therefore, the proposed project would have a less than cumulatively considerable impact related to noise.

Population and Housing

As the project site is currently vacant, no housing units or people would be displaced, and the construction of replacement housing is not required. The proposed project would increase the housing supply in the City. Therefore, the project would have a less than cumulatively considerable impact related to population and housing.

Public Services

Implementation of the proposed project, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development in the immediate area, may increase the demand for public services such as fire and police protection. However, as a standard condition of approval, project applicant is required to pay development impact fees to fund the expansion of such services. Development of any future public facilities would be subject to CEQA review prior to approval that would identify and address any resulting impacts. Therefore, the proposed project would have a less than cumulatively considerable impact on public services.

Recreation

Implementation of the proposed project, in combination with other existing, planned, proposed, approved, and reasonably foreseeable development in the immediate area, would not significantly increase the demand for recreational space. Additionally, as a standard condition of approval, the project applicant is required to pay development impact fees to fund the expansion of such services. Development of any future public facilities would be subject to CEQA review prior to approval that would identify and address any resulting impacts. Therefore, the proposed project would have a less than cumulatively considerable impact on public services.

Transportation

Cumulative traffic impacts are created because of a combination of the proposed project and other future developments contributing to the overall traffic impacts and requiring additional improvements to maintain acceptable level of service operations with or without the project. A project's contribution to a cumulatively significant impact can be reduced to less than significant if the project implements or funds its fair share of improvements designed to alleviate the potential cumulative impact. As enforced by City Municipal Code Chapter 3.40, the Western Riverside County Transportation Uniform Mitigation Fee, and the adopted City Traffic Signal Development Impact Fee (Article I, Development Impact Fees, of Municipal Code Chapter 3.44), the project applicant will be required to participate in the funding of off-site improvements, including traffic signals that are needed to serve cumulative traffic conditions. Specifically, this will be accomplished through the payment of the Western Riverside County Transportation Uniform Mitigation Fee, City of Wildomar development impact fees, fair-share payment to City of Murrieta CIP #8282, and a fair-share contribution as directed by the City. These fees are collected as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with projected

population increases. In addition to these fees, as a condition of approval for the proposed project, the City will likely require the project to contribute its fair share to the specific roadway improvements outlined in Table **17-3** in section V. 17, Transportation, to reduce traffic impacts attributed to the project and future development within the project vicinity. In addition, the project may include an improvement that is part of the City's Capital Improvement Program CIP 025 Clinton Keith Widening. The impacts of this project were addressed in an IS/MND adopted by Riverside County (SCH# 200910103) and the project would be required to implement **TRF-1**, as shown in the Clinton Keith Road Widening IS/MND. The City of Wildomar's Vehicle Miles Travelled (VMT) CEQA Threshold Policy Guidelines allows mixed use projects with at least 30 percent residential to screen from requiring a VMT analysis (EDP 2021b)). The proposed mixed-use development encompasses 4.47 acres of residential space and 4.53 acres of commercial space which makes the project approximately 49 percent residential. Therefore, the proposed development would screen from requiring a VMT analysis and the project's contribution to VMT can be considered less than significant. Implementation of these improvements and mitigation measure would reduce the project's impacts to cumulative traffic conditions to less than cumulatively considerable.

Tribal Cultural Resources

Development of the project site would contribute to a cumulative increase in potential impacts to cultural and archaeological resources. However, mitigation measures **CUL-1** and **TRI-1** through **TRI-7** would reduce the potential impacts to tribal cultural resources associated with development on the project site. As with the proposed project, each related cumulative project would be required to comply with AB 52 and PRC Section 21083.2(i), which addresses accidental discoveries of archaeological sites and resources, including tribal cultural resources; therefore, any discoveries of Tribal Cultural resources caused by the project or related projects would be mitigated to a less than significant level. Therefore, the project would have a less than cumulatively considerable impact.

Utilities and Service Systems

Implementation of the proposed project would increase demand for public utilities. However, project would not result in a significant increase in utility demand and would be accounted for in long-range plans for provision of such services, as provided in the General Plan. Therefore, the proposed project would have less than cumulatively considerable impacts on utilities and service systems.

Wildfire

The project site is located within a Very High Fire Hazard Severity Zone. Implementation of mitigation measures **HAZ-3** and **HAZ-4** and Compliance with California Building Code, Fire Code, and other applicable federal, state, and local regulations would ensure that cumulative hazard conditions are less than cumulatively considerable.

c) **Less Than Significant Impact with Mitigation Incorporated**. The proposed project does not have the potential to significantly adversely affect humans, either directly or indirectly. Although a number of impacts were identified as having potential to significantly impact humans, with implementation of the identified mitigation measures, and implementation of standard conditions and requirements, these impacts are less than significant. With implementation of the identified mitigation measures, the

proposed project is not expected to cause significant adverse impacts to humans. Mitigation measures **AQ-1** and **AQ-2** reduce impacts associated with air resources; mitigation measures **BIO-1** and **BIO-2** reduce impacts associated with biological resources; **CUL-1** and **TRI-1** through **TRI-7** reduce impacts associated with cultural, archaeological, and tribal cultural resources; mitigation measure **GEO-1** reduces impacts associated with earthquake faults and soils hazards. As conditioned the proposed project will pay into the fee program for several intersections to ensure that the CIP improvements occur as needed under the cumulative condition. Therefore, the project does not have any environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. Furthermore, because this document analyzes long-term and short-term impacts and mitigates all potential impacts to a less than significant level, the proposed project would not achieve short-term environmental goals to the disadvantage of long-term environmental goals. Any impacts are considered less than significant with mitigation incorporated. W

VII. REFERENCES

Brian F. Smith and Associates, Inc. (BSA) 2021a, November 24. Cultural Resources Assessment. (Appendix 5).

_____. 2021b, November 24. Paleontological Assessment. (Appendix 9).

California Department of Conservation (CDC). California Important Farmland Finder. 2016. Accessed March 16, 2022. https://maps.conservation.ca.gov/dlrp/ciff/

California Department of Finance. (DOF). 2022. E-5 E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark. https://dof.ca.gov/forecasting/demographics/estimates/e-5-population-and-housing-estimates-for-cities-counties-and-the-state-2020-2022/

California Department of Forestry and Fire Protection. (CALFIRE). 2009, December 21. Wildomar – Very High Fire Hazard Severity Zones in LRA. https://osquare feetm.fire.ca.gov/media/5925/wildomar.pdf

California Department of Resources Recycling and Recovery (CalRecycle). 2019a. Facility/Site Summary Details: El Sobrante Landfill (33-AA-0217). https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2280?siteID=2402

_____. 2019b. Estimated Solid Waste Generation Rates. https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates

California Department of Toxic Substances Control (DTSC). 2022. Envirostor 2022. https://www.envirostor.dtsc.ca.gov/public/map/?myaddress

California Department of Transportation (CALTRANS). 2020, April. Transportation and Construction Vibration Guidance Manual. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf

_____. 2018. California State Scenic Highway System Map. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa

California Department of Water Resources (DWR). 2020. California's Critically Overdrafted Groundwater Basins. https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118/Critically-Overdrafted-Basins

California Energy Commission (CEC). 2020. Electricity Consumption by Planning Area. Accessed 2022, May 5. http://www.ecdms.energy.ca.gov/elecbyplan.aspx.

____. 2018. California Energy Demand 2018-2030 Revised Forecast, Figure 49 Historical and Projected Baseline Consumption SCE Planning Area.

California Office of Planning and Research (OPR). (2018). Technical Advisory on Evaluation Transportation Impacts in CEQA. https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

California State Water Resources Control Board (SWRCB). 2022. GeoTracker. 2015. https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress

DRC Engineering Inc. 2022a, April 2. Project Specific Water Quality Management Plan. (Appendix 14).

_____. 2022b, April 2. Preliminary Hydrology Report. (Appendix 15).

EDP Solutions, Inc (EPD). 2022a, April 8. Parking Demand Analysis for the proposed Shopping Center project at Northwest Corner of Clinton Keith Rd & Wildomar Tr, Wildomar. (Appendix 12).

_____. 2022b, August 10. Wildomar Crossroads Traffic Impact Analysis (Appendix 16).

Elsinore Valley Municipal Water District (EVMWD). 2016. 2016 Sewer System Master Plan. https://www.evmwd.com/home/showpublisheddocument/1773/637486585053570000

_____. 2021. 2020 Urban Water Management Plan. https://www.evmwd.com/home/showpublisheddocument/2363/637605786821270000

Employment Development Department (EDD). 2022. Monthly Labor Force Data for Cities and Census Designated Places March 2022. https://www.labormarketinfo.edd.ca.gov/data/labor-force-and-unemployment-for-cities-and-census-areas.html

Federal Emergency Management Agency (FEMA). 2008, August 28. Flood Map Number 06065C2682G. https://msc.fema.gov/arcgis/rest/directories/arcgisjobs/nfhl_print/agolprintb_gpserver/j325863b80c824f3c98972b326e7cc519/scratch/FIRMETTE_486251a4-97f9-4427-b818-a96fff1ef054.png

JM Researching and Consulting (JM). 2021, November 22. Focused Cultural Resources Survey – Historic Resources Assessment for the NWC Clinton Keith & Wildomar Trail Project, Wildomar, Riverside County, California. (Appendix 6).

Lin, Pei-Sung & Kou, Cheng-Chen. 2004. The Effects of Left-turn Lane Queue Storage Lengths on Intersection Delay. https://www.researchgate.net/publication/282865771_The_Effects_of_Left-turn_Lane_Queue_Storage_Lengths_on_Intersection_Delay

Leighton and Associates, Inc. (Leighton). 2022, March 30. Preliminary Geotechnical Exploration of the Proposed 8.9 Acre Mixed-Use Development. (Appendix 8).

_____. 2021, June 22. Phase I Environmental Site Assessment. (Appendix 11).

Natelson Company Inc. 2001. Employment Density Study Summary Report- Table II-A - Table II-B (pg 4)- Land Use Category: Other Retail/Services for Riverside County.

Riverside, County of. 2022. Regional Conservation Authority Multiple Species Habitat Conservation Plan Map. Accessed March 8, 2022. https://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=a73e69d2a64d41c29ebd3acd67467abd

_____. 2019. Emergency Operations Plan Riverside County Operational Area. https://orange-arrl.org/wp-content/uploads/2020/11/RivCo-Emergency-Operations-Plan.pdf

Riverside County Transportation Commission. 2019. Riverside County Long Range Transportation Study. https://www.rctc.org/wp-content/uploads/2019/12/RCTC-Draft-LRTS-120119-GV22.pdf

Riverside Transit Agency. 2022a. Riverside Transit Authority Ride Guide- Route 23. https://www.riversidetransit.com/images/DOWNLOADS/MAPS_SCHEDULES_PDFS/Route%2023%20%7C%20Temecula,%20Murrieta,%20Wildomar.pdf

_____. 2022b. Who We Are- Mission Statement. https://www.riversidetransit.com/index.php/about-rta/who-we-are

Southern California Association of Governments (SCAG). 2016. 2016–2040 RTP/SCS Final Growth Forecast by Jurisdiction. https://scag.ca.gov/sites/main/files/file-attachments/2016_2040rtpscs_finalgrowthforecastbyjurisdiction.pdf?1605576071

_____. 2020, September 3. Final 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579.

TERACOR. 2022a, June 30. MSHCP Consistency Analysis for A 10.12-Acre Property Located in the City Of Wildomar, Riverside County, California. (Appendix 3).

____. 2022b, June 20. Step I Habitat Assessment, Step II, Part a Focused Burrow Survey and Part B Focused Burrowing Owl Surveys for a 10.12-Acre Property Located in the City Of Wildomar, Riverside County, California. (Appendix 4).

United States Department of Transportation. 2018, September. Transit Noise and Vibration Impact Assessment Manual. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

United States Fish and Wildlife Service (USFWS). 2022. National Wetlands Inventory. Accessed 2022, June 2. https://www.fws.gov/wetlands/data/mapper.html

Urban Crossroads. 2022a, April 13. Wildomar Crossroads Air Quality Impact Analysis. (Appendix 2).

--------. 2022b, January 18. Wildomar Crossroads Energy Tables. (Appendix 7).

_____. 2022c, April 13. Wildomar Crossroads Greenhouse Gas Analysis. (Appendix 10).

_____. 2022d, April 18. Wildomar Crossroads Noise and Vibration Impact Analysis. (Appendix 15).

Weather Spark. 2022. Average Weather in Wildomar. Accessed March 13, 2022. https://weatherspark.com/y/1910/Average-Weather-in-Wildomar-California-United-States-Year-Round

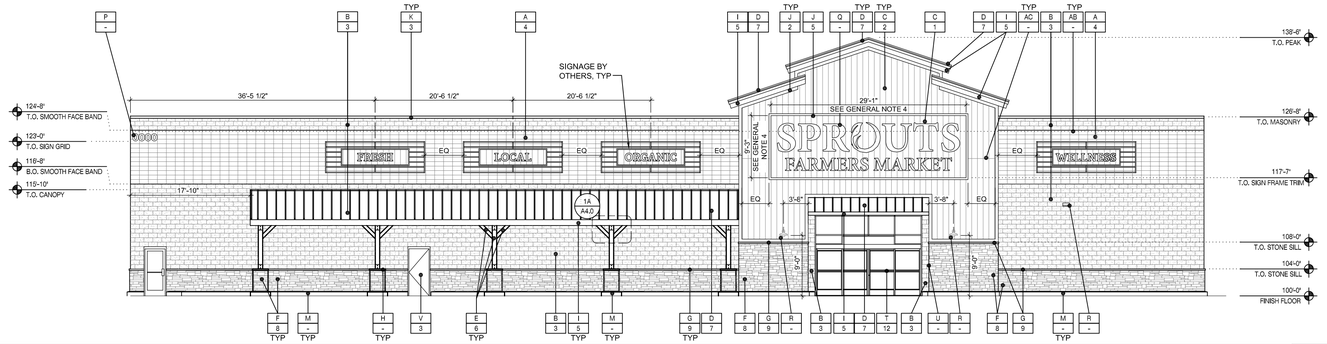
Wildomar, City of. 2003. County of Riverside General Plan. http://www.cityofwildomar.org/UserFiles/Servers/Server_9894739/File/Government/Departments/Planning/General%20Plan.pdf

_____. 2018. Biennial Operating Budget Fiscal Years 2017-18 & 2018-19. http://www.cityofwildomar.org/UserFiles/Servers/Server_9894739/File/Government/Departments/Finance/Budgets/Adopted%20Budget%20City%20of%20Wildomar%20web%202017-19.pdf

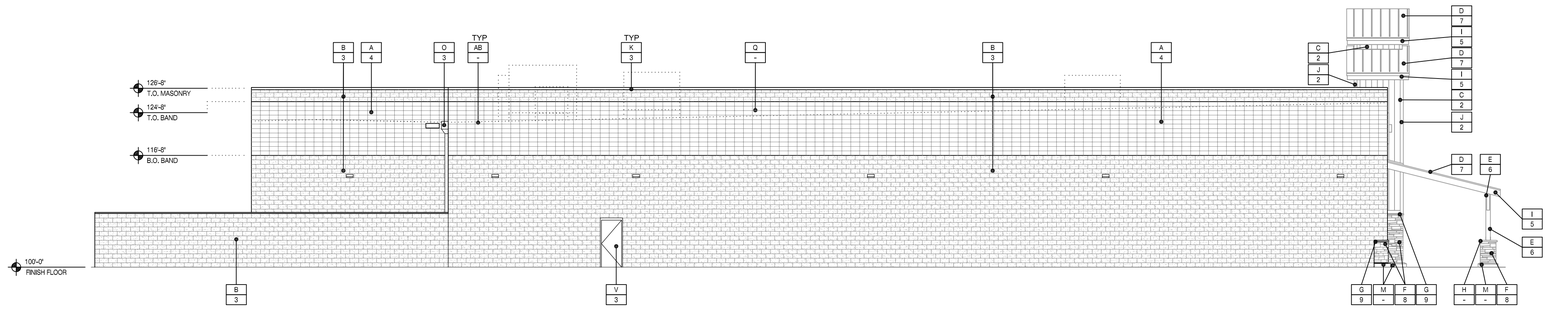
_____. 2019. Trails Map. http://www.cityofwildomar.org/cms/One.aspx?portalId=9894827&pageId=12051383

_____. 2020. Vehicle Miles Travelled (VMT) CEQA Threshold Policy Guidelines. https://p1cdn4static.civiclive.com/UserFiles/Servers/Server_9894739/File/Government/Other%20Information/Planning%20Commission%20Agendas%20&%20Minutes/2020%20Planning%20Commission/6-3-20/Items%20%20and%20Agenda/Item%203.3%20-%20VMT-PC%20Staff%20Report-Resolution%20Final%206-3-20.pdf

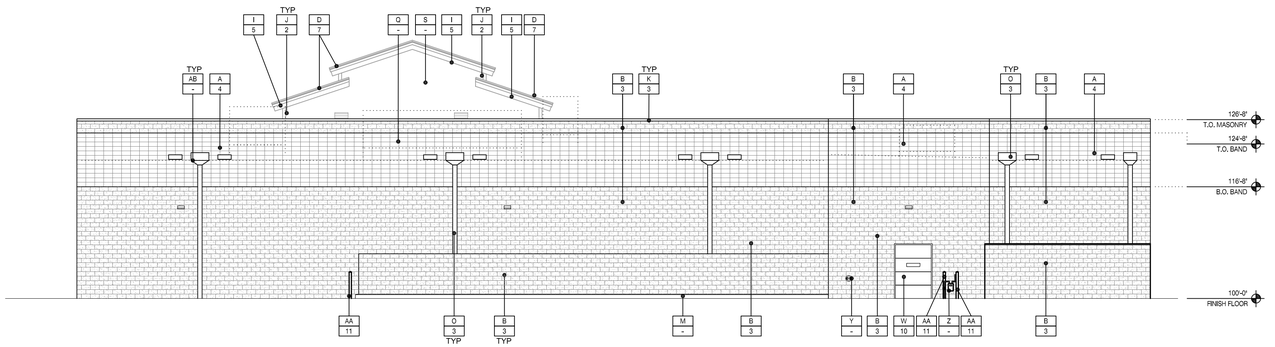
This page intentionally left blank.



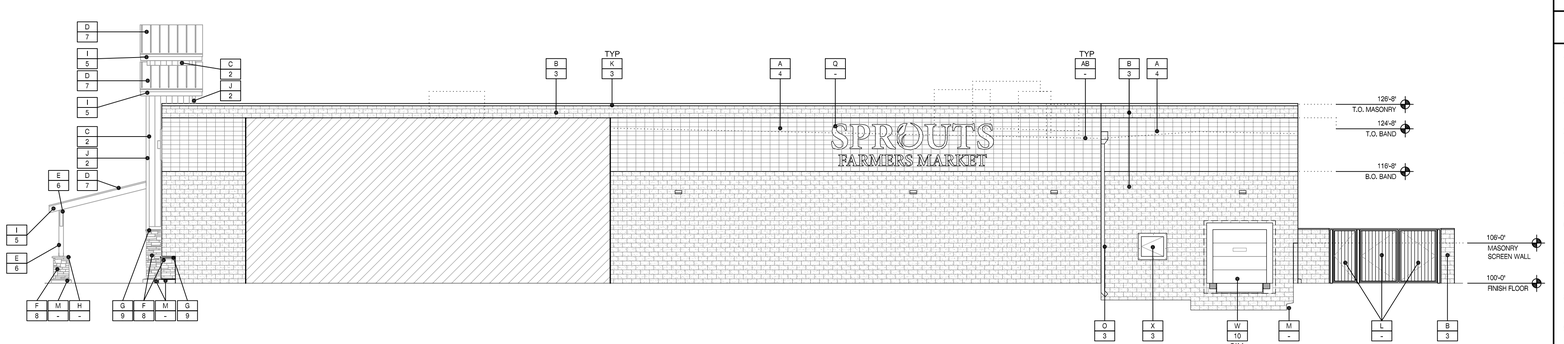
FRONT (SOUTH) ELEVATION — SCALE: 3/32" = 1'-0" — 1



SIDE (WEST) ELEVATION — SCALE: 3/32" = 1'-0" — 2



REAR (NORTH) ELEVATION — SCALE: 3/32" = 1'-0" — 3



SIDE (EAST) ELEVATION — SCALE: 3/32" = 1'-0" — 4

MATERIAL KEYNOTES:

- A - SMOOTH FACE C.M.U. BLOCK - STACKED BOND
- B - SPLIT FACE C.M.U. BLOCK - RUNNING BOND
- C - HARDIE BOARD ARTISAN SQUARE CHANNEL SIDING - VERTICAL
- D - BERRIDGE STANDING SEAM ROOFING
- E - SOLID WOOD
- F - CORONADO STONE VENEER
- G - CORONADO STONE SILL
- H - PRECAST CONCRETE CAP - AT COLUMNS ONLY
- I - HARDIE BOARD FIBER CEMENT FASCIA TRIM
- J - HARDIE BOARD ARTISAN FIBER CEMENT TRIM
- K - METAL - PAINTED
- L - BLACK ORNAMENTAL METAL FENCE
- M - CONCRETE CURB
- N - NOT USED
- O - ROOF DRAIN, DOWN SPOUT, AND ROOF OVERFLOW SCUPPER. PAINT TO MATCH ADJACENT SURFACE. U.N.O.
- P - BUILDING ADDRESS, VERIFY NUMBERS, LOCATION AND HEIGHT WITH FIRE MARSHAL (12" HIGH MIN.) NUMBERS MUST CONTRAST WITH BACKGROUND
- Q - LOCATION OF FUTURE SIGN - GENERAL CONTRACTOR TO INSTALL J-BOX FOR EACH SIGN, SIGNAGE UNDER SEPARATE PERMIT
- R - LIGHT FIXTURE REF. ELECTRICAL.
- S - PARAPET WATERPROOFING MEMBRANE
- T - AUTOMATIC SLIDING DOORS. G.C. SHALL WRAP EXTERIOR SIDE OF ANY WOOD BLOCKING OR SHIMS WITH BRAKE METAL MATCHING STOREFRONT FINISH.
- U - KNOX BOX - MOUNT AT +52" ABOVE FINISH FLOOR CONFIRM FINAL LOCATION WITH AHJ.
- V - HOLLOW METAL DOOR AND FRAME. PAINT TO MATCH ADJACENT SURFACE..
- W - OVERHEAD DOOR AND FRAME - AT SIM. CONDITION OVERHEAD DOOR AND FRAME AND DOCK SEALS. PROVIDE 16" OF SMOOTH FACE BLOCK AROUND ENTIRE OVERHEAD SIM DOOR.
- X - COMPACTOR DOOR.
- Y - FIRE DEPARTMENT CONNECTION
- Z - GAS METER, PAINT TO MATCH ADJACENT WALL OR COLOR AS REQUIRED BY AHJ. ENSURE IT IS LABELED PER AHJ REQUIREMENTS.
- AA - BOLLARD
- AB - LINE OF ROOF BEYOND, HVAC, AND REFRIGERATION SHOWN DOTTED

COLOR SCHEDULE:

- 1 - PPG - 1099-1 - ALWAYS ALMOND
- 2 - PPG - 1142-6 - JERICHO JADE
- 3 - PPG - 1028-6 - MOMENTUM
- 4 - PPG - 1032-2 - HURRICANE HAZE
- 5 - PPG - 1005-7 - DARK GRANITE
- 6 - FLOOD WOOD STAIN - SEMI-TRANSPARENT - TOBACCO
- 7 - BERRIDGE - AGED BRONZE
- 8 - CORONADO - OLD WORLD LEDGE - MONARCH
- 9 - CORONADO - 900 SERIES - GREY
- 10 - PREFINISHED BY MFR. - WHITE
- 11 - TRAFFIC YELLOW
- 12 - DARK BRONZE

GENERAL NOTES:

1. GENERAL CONTRACTOR TO VERIFY MOUNTING HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION OF ALL PERIMETER WALL PACK LIGHTING. (16'-0" ABOVE FINISH FLOOR TYPICAL U.N.O.).
2. HOLLOW METAL DOORS / OVERHEAD DOORS, DOWNSPOUTS, AND GUTTERS - PAINT TO MATCH ADJACENT WALL.
3. ALL SIGNAGE UNDER SEPARATE PERMIT. COORD. W/ SIGNAGE VENDOR
4. EXTENTS OF FIBER CEMENT TRIM SURROUND ARE SHOWN FOR BIDDING PURPOSES. PRIOR TO INSTALLATION OF FURRING CHANNELS AND FINISH MATERIALS GC SHALL COORDINATE WITH SIGNAGE VENDOR AND ARCHITECT TO CONFIRM REQUIRED DIMENSIONS. EXTENTS OF FIBER CEMENT TRIM SURROUND VARY WITH SIZE OF SIGN ALLOWED BY AHJ.
5. GRIND ALL METAL EDGES (INCLUDING TRIM AND FLASHING) FOR A SMOOTH FINISH.
6. PROVIDE JUNCTION BOXES FOR MAIN SIGN AND (4) ADDITIONAL JUNCTION BOXES FOR FUTURE SIGNS. REF. ELECTRICAL. VERIFY LOCATIONS AND NUMBER OF SIGNS WITH SPROUTS PRIOR TO INSTALLATION.
7. GENERAL CONTRACTOR TO POWER WASH EXTERIOR WALLS AND ENTRANCE WALK AT A MINIMUM PRIOR TO STORE OPENING.
8. GENERAL CONTRACTOR TO COORDINATE INSTALLATION OF "NOW HIRING" & "COMING SOON" BANNER 80-DAYS PRIOR TO OPENING.
9. GENERAL CONTRACTOR TO COORDINATE INSTALLATION OF "OPENING DATE" BANNER 30-DAYS PRIOR TO OPENING.
10. PROVIDE CONTROL JOINTS IN CMU WALLS AS LOCATED BY STRUCTURAL.

62931034

COPYRIGHT NOTICE:
THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE CONTEMPORANEOUSLY WITH ITS ISSUE DATE AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

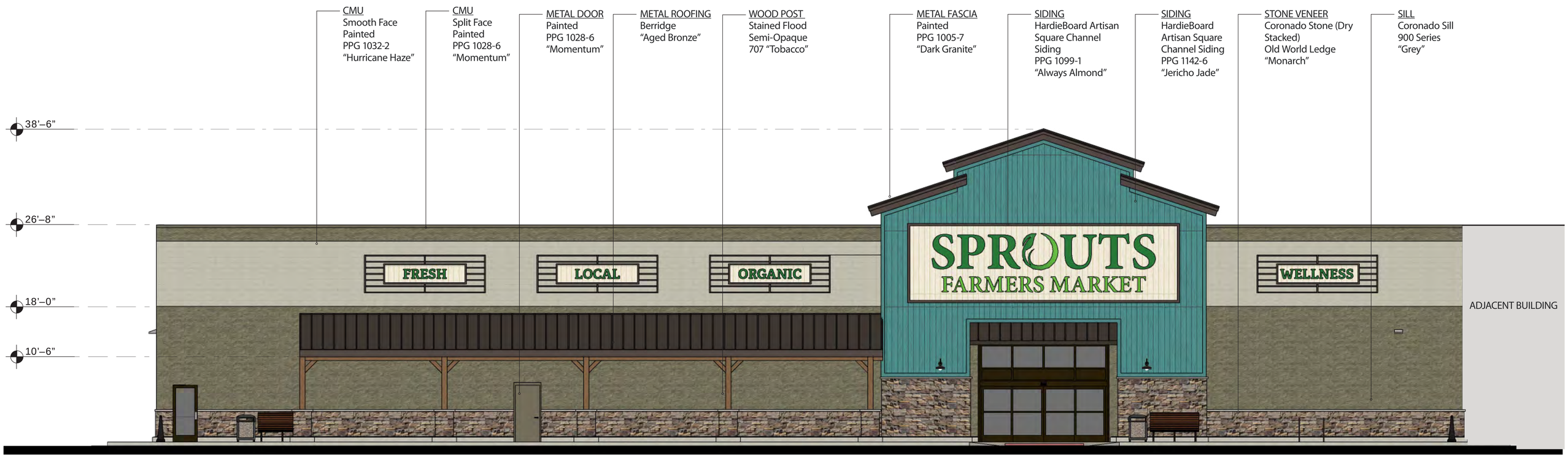
brr
ARCHITECT OF RECORD: MARIAN B. MEYER
8131 METCALF AVENUE, SUITE 350, OVERLAND PARK, KANSAS 66204

SPROUTS FARMERS MARKET
WILDOMAR, CA 92595

SPROUTS FARMERS MARKET
BUILD TO SUIT (NBTS)
WILDOMAR, CA (#462)

PRELIMINARY EXTERIOR ELEVATIONS

DATE:	04-18-22
DRAWN BY:	MMM
CHECKED BY:	
SCALE:	AS NOTED
PROJECT NUMBER:	62931034
SHEET:	PA4.0
REV:	



Front Elevation

NTS

5′ 10′ 20′ 30′ 50′

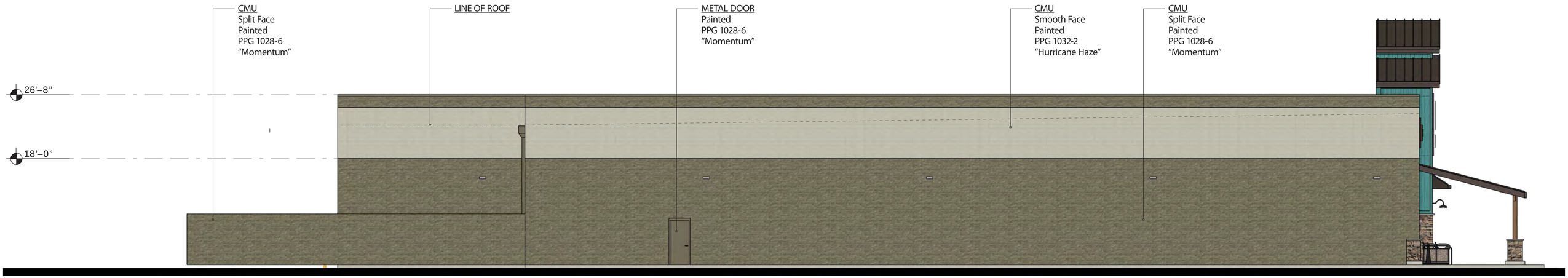
Sprouts Farmers Market | Wildomar (CA)

Exterior Elevations

June 10, 2022

DESIGN REPRESENTATION ONLY - NOT FOR CONSTRUCTION - The images provided throughout this package are a representation of the current design intent only. The images may not reflect variations in color, tone, hue, tine, shading, ambient light intensity, materials, texture, contrast, font style and construction variations required by building codes or inspectors, material availability or final design detailing. All images and artwork associated/provided should be reviewed by the client with their print and/or production vendors and adjusted as needed during the proof and shop drawing submittals. Those client-approved drawings take precedence and provide final direction for design, printing and production.

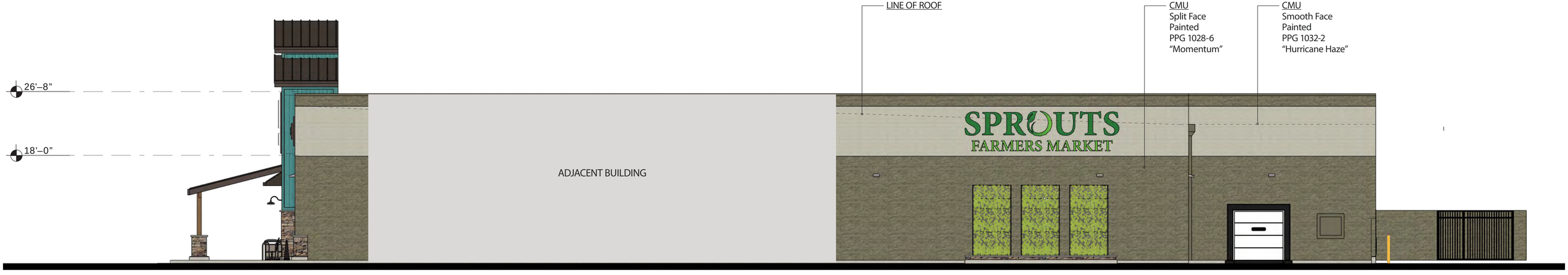
brr



Left Elevation

NTS

5′ 10′ 20′ 30′ 50′



Right Elevation

NTS

5′ 10′ 20′ 30′ 50′

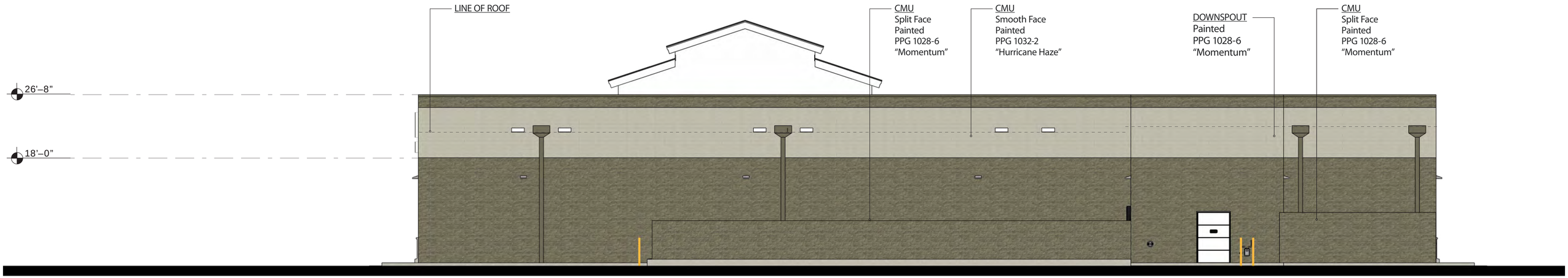
Sprouts Farmers Market | Wildomar (CA)

Exterior Elevations

June 10, 2022

DESIGN REPRESENTATION ONLY - NOT FOR CONSTRUCTION - The images provided throughout this package are a representation of the current design intent only. The images may not reflect variations in color, tone, hue, tine, shading, ambient light intensity, materials, texture, contrast, font style and construction variations required by building codes or inspectors, material availability or final design detailing. All images and artwork associated/provided should be reviewed by the client with their print and/or production vendors and adjusted as needed during the proof and shop drawing submittals. Those client-approved drawings take precedence and provide final direction for design, printing and production.

brr



Rear Elevation

NTS

5′ 10′ 20′ 30′ 50′

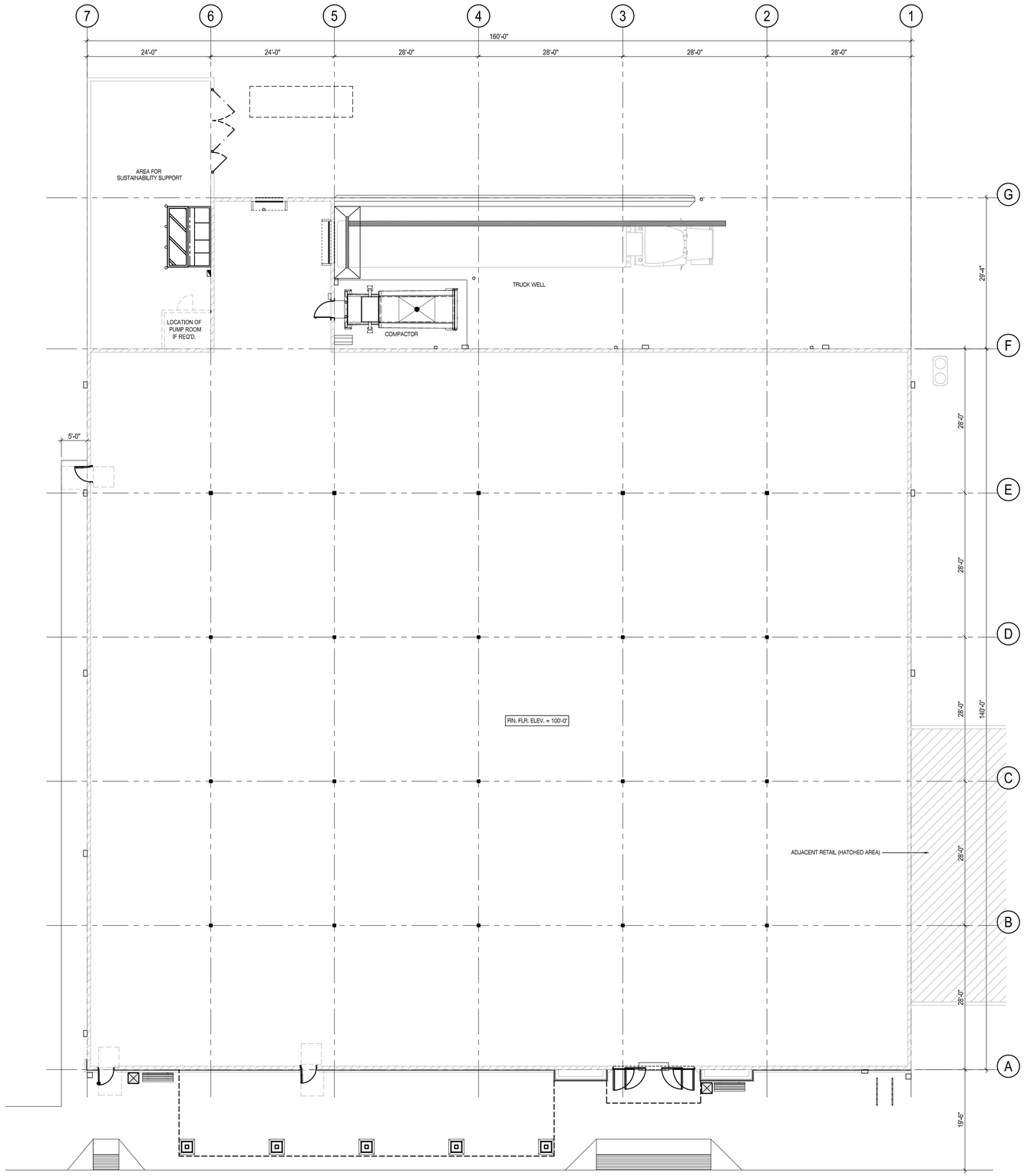
Sprouts Farmers Market | Wildomar (CA)

Exterior Elevations

June 10, 2022

DESIGN REPRESENTATION ONLY - NOT FOR CONSTRUCTION - The images provided throughout this package are a representation of the current design intent only. The images may not reflect variations in color, tone, hue, tine, shading, ambient light intensity, materials, texture, contrast, font style and construction variations required by building codes or inspectors, material availability or final design detailing. All images and artwork associated/provided should be reviewed by the client with their print and/or production vendors and adjusted as needed during the proof and shop drawing submittals. Those client-approved drawings take precedence and provide final direction for design, printing and production.

brr



PRELIMINARY FLOOR PLAN

SCALE: 3/32" = 1'-0"

1

62931034

COPYRIGHT NOTICE:
THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE CONTEMPORANEOUSLY WITH ITS ISSUE DATE AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

brr
ARCHITECT OF RECORD: MARIAH B. MEYER
8131 METCALF AVENUE, SUITE 550, OVERLAND PARK, KANSAS 66204

SPROUTS FARMERS MARKET

WILDOMAR, CA 92595

SPROUTS FARMERS MARKET
BUILD TO SUIT (NBTS)
WILDOMAR, CA (#462)

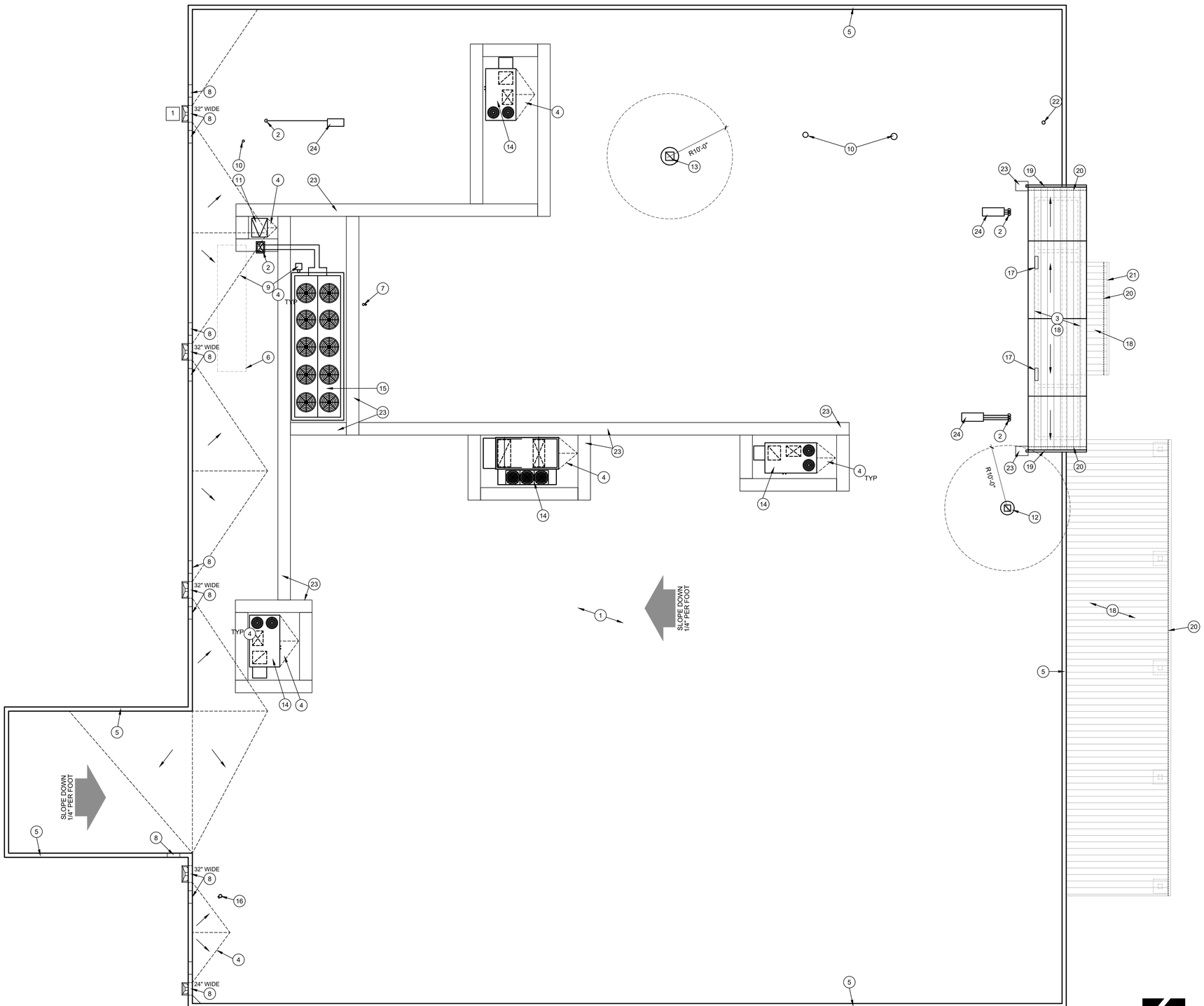
PRELIMINARY FLOOR PLAN

DATE:	04-18-22
DRAWN BY:	MMM
CHECKED BY:	
SCALE:	AS NOTED
PROJECT NUMBER:	62931034

SHEET: PA1.0

REV:

NORTH



KEYNOTES:

1. CLASS 'A' SINGLE PLY T.P.O. ROOF WITH R-30 INSULATION ON METAL ROOF DECK. REF SPECS.
2. PROVIDE OPENING IN ROOF FOR REFRIGERATION LINES
3. TOWER STRUCTURE SHOWN DASHED BELOW.
4. ROOF CRICKET, WOOD FRAME OR RIGID INSULATION FOR 1/4" PER FOOT SLOPE MINIMUM.
5. 24 GAUGE METAL FLASHING AT PARAPET - PAINT.
6. LINE OF REFRIGERATION RACKS BELOW.
7. HOSE BIB 6" ABOVE FINISH ROOF.
8. PRIMARY SCUPPER (SEE PLAN FOR SIZE) & 24" ADJACENT OVERFLOW SCUPPER.
9. WEATHER STATION BY REFRIGERATION CONTRACTOR. VERIFY LOCATION WITH REFRIGERATION DRAWINGS.
10. FLUE / VENT THRU ROOF. MIN. 2'-0" FROM PARAPET, 10'-0" FROM AIR-INTAKE ON HVAC UNITS.
11. ROOF ACCESS HATCH AND LADDER.
12. RESTROOM EXHAUST FAN.
13. ONE HOUR FIRE RATED EXHAUST HOOD DUCT SHAFT ENCLOSURE.
14. HVAC UNIT. FOR CURB.
15. REFRIGERATION EQUIPMENT ON ROOF. FOR LEVEL STEEL PLATFORM.
16. COMBUSTION AIR INTAKE.
17. LOUVERED ACCESS PANEL AT BACK OF TOWER.
18. STANDING SEAM METAL ROOF ON (2) LAYER 30# FELT ON EXTERIOR SHEATHING OVER METAL FRAMING.
19. 4" x 4" BOX SHAPE, METAL GUTTER WITH 2" DIAMETER DOWNSPOUT. INCLUDE SPLASH GUARD AT ROOF, INSTALLED DIRECTLY UNDER DOWNSPOUT.
20. SNOW GUARD RAILS (IN ZONES 4 AND COLDER) ON STANDING SEAM ROOF WITH TABS EXTENDING DOWN BETWEEN RAISED SNAP-LOCK SEAMS.
21. 4" x 4" BOX SHAPE, METAL GUTTER. INSTALL LEVEL AND PROVIDE DRAINAGE HOLE AT THE BOTTOM OF EACH END.
22. COMMUNICATION ANTENNA; G.C. TO PROVIDE 2" CONDUIT, PULL STRING AND WEATHER PROOF ROOF JACK FOR COAT CABLE.
23. WALKWAY PADS TYPICAL.
24. CONDENSING UNIT. REF MECHANICAL.

GENERAL NOTES:

1. SEE MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL NOTES AND DETAILS.
2. VERIFY LOCATIONS OF ALL ROOF PENETRATIONS WITH STRUCTURAL, PLUMBING, MECHANICAL AND ARCHITECTURAL DRAWINGS.
3. ALL EQUIPMENT ON ROOF TO BE MOUNTED ON LEVEL CURBS.
4. ALL VENT LOCATIONS TO BE COORDINATED WITH PLUMBING AND MECHANICAL DRAWINGS.
5. EXHAUST FANS AND VENTS TO BE LOCATED A MINIMUM OF 10'-0" FROM HVAC INTAKE. VERIFY ALL LOCATIONS WITH PLUMBING AND MECHANICAL DRAWINGS.
6. ALL MECHANICAL DUCT DROP LOCATIONS DIMENSIONED TO CENTER OF HVAC OPENING. VERIFY EXACT LOCATION. INTENT OF LAYOUT IS TO ALIGN EDGE OF CURB ON STRUCTURAL PURLIN. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
7. MECHANICAL SUBCONTRACTOR TO COORDINATE INSTALLATION AND ACCEPTANCE OF PREFABRICATED CURBS AND PENETRATIONS WITH ROOF MEMBRANE SUBCONTRACTOR. GENERAL CONTRACTOR TO PROVIDE ALL NECESSARY BLOCKING, NAILING, ETC. AS NECESSARY FOR A WATERTIGHT AND WATERPROOF BUILDING.
8. IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO VERIFY, COORDINATE AND / OR INSTALL ALL ADJACENT AND / OR RELATED FLASHING, BLOCKING, NAILERS, CRICKETS, ETC. NECESSARY FOR THE COMPLETE INSTALLATION OF THE ROOF MEMBRANE WHICH IS REQUIRED FOR A COMPLETE, WARRANTED, WATERTIGHT, WATERPROOF INSTALLATION.
9. IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO VERIFY HEIGHT ELEVATION OF ROOF DECK AND ENTRY GABLE WITH STRUCTURAL DRAWINGS.
10. ROOF PENETRATIONS TO BE MINIMUM 2'-0" FROM EDGE OF ROOF OR PARAPETS.
11. GENERAL CONTRACTOR TO PROVIDE ONE (1) 3/4" CONDUIT FOR MUZAK COAXIAL CABLE PENETRATION. VERIFY EXACT LOCATION WITH SPROUTS. (LOCATE, CLOSE AS POSSIBLE, TO MANAGER'S OFFICE).
12. WOOD BLOCKING UNDER MANUFACTURED CURBS IS TO BE FLUSH WITH TOP OF RIGID (ROOF) INSULATION (MINIMUM) AND IS TO BE FLAT AND LEVEL. PROVIDE 5 1/2" MINIMUM WIDTH FRAMING AS NECESSARY FULL PERIMETER OF OPENING.
13. GENERAL CONTRACTOR TO PROVIDE WALKWAY PADS AROUND ALL ROOFTOP EQUIPMENT WITH A CONNECTED PATH LEADING TO THE ROOF HATCH.

62931034

COPYRIGHT NOTICE:
THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE CONTEMPORANEOUSLY WITH ITS ISSUE DATE AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

brr
ARCHITECT OF RECORD: MARIAH B. MEYER
8131 METCALF AVENUE, SUITE 300, OVERLAND PARK, KANSAS 66204

SPROUTS FARMERS MARKET
WILDOMAR, CA 92595

SPROUTS FARMERS MARKET
BUILD TO SUIT (NBTS)
WILDOMAR, CA (#462)

PRELIMINARY ROOF PLAN

DATE:	04-18-22
DRAWN BY:	MMM
CHECKED BY:	XX
SCALE:	
PROJECT NUMBER:	62931034

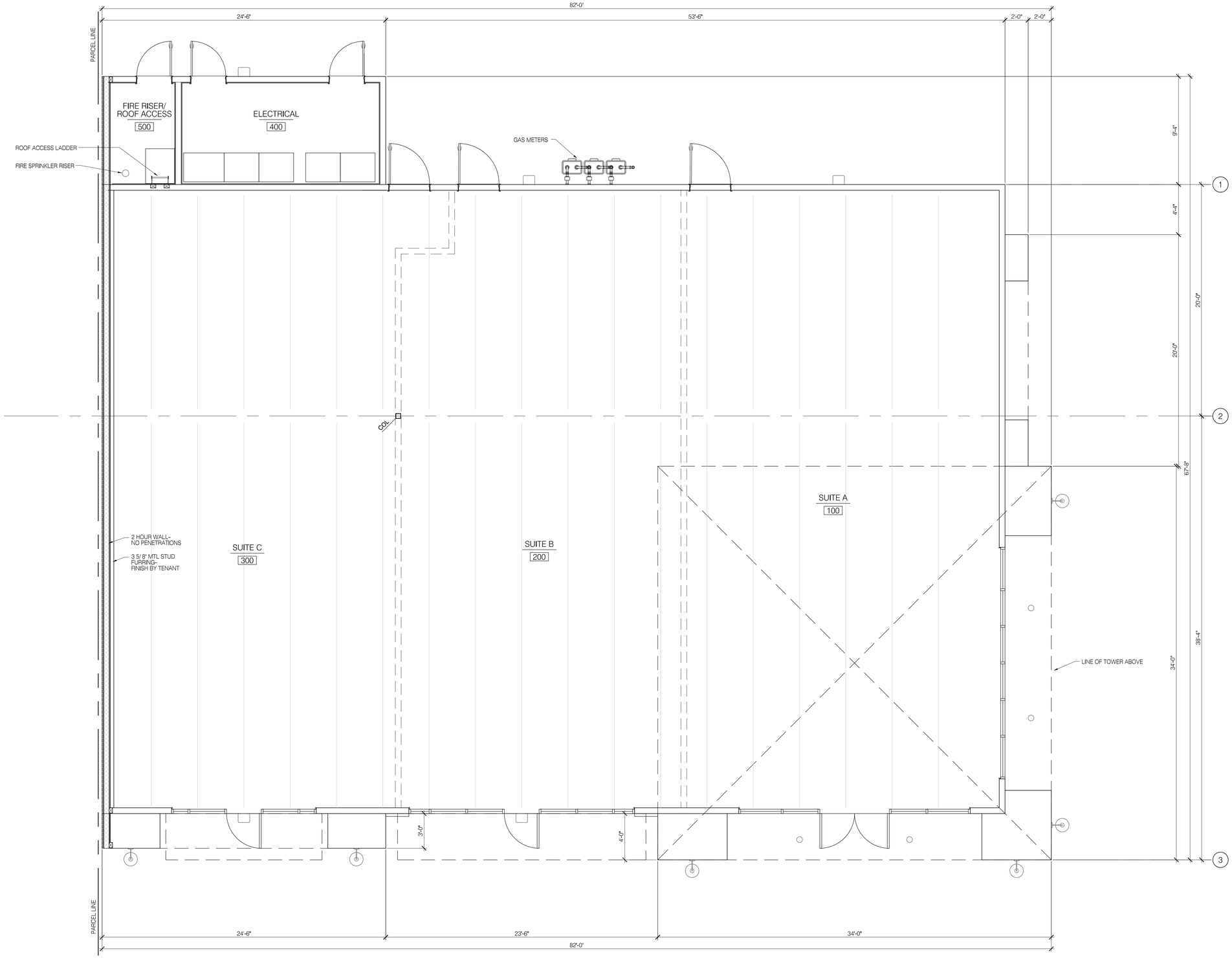
SHEET: PA3.0

REV:

PRELIMINARY ROOF PLAN

SCALE: 1/8" = 1'-0"

1



PROJECT DATA

2019 CBC

BUILDING AREA:	4,213 SF
TYPE OF CONSTRUCTION:	V-N (FIRE SPRINKLERED)
OCCUPANCY:	M, A-2, B

SHOPS 1
FLOOR PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

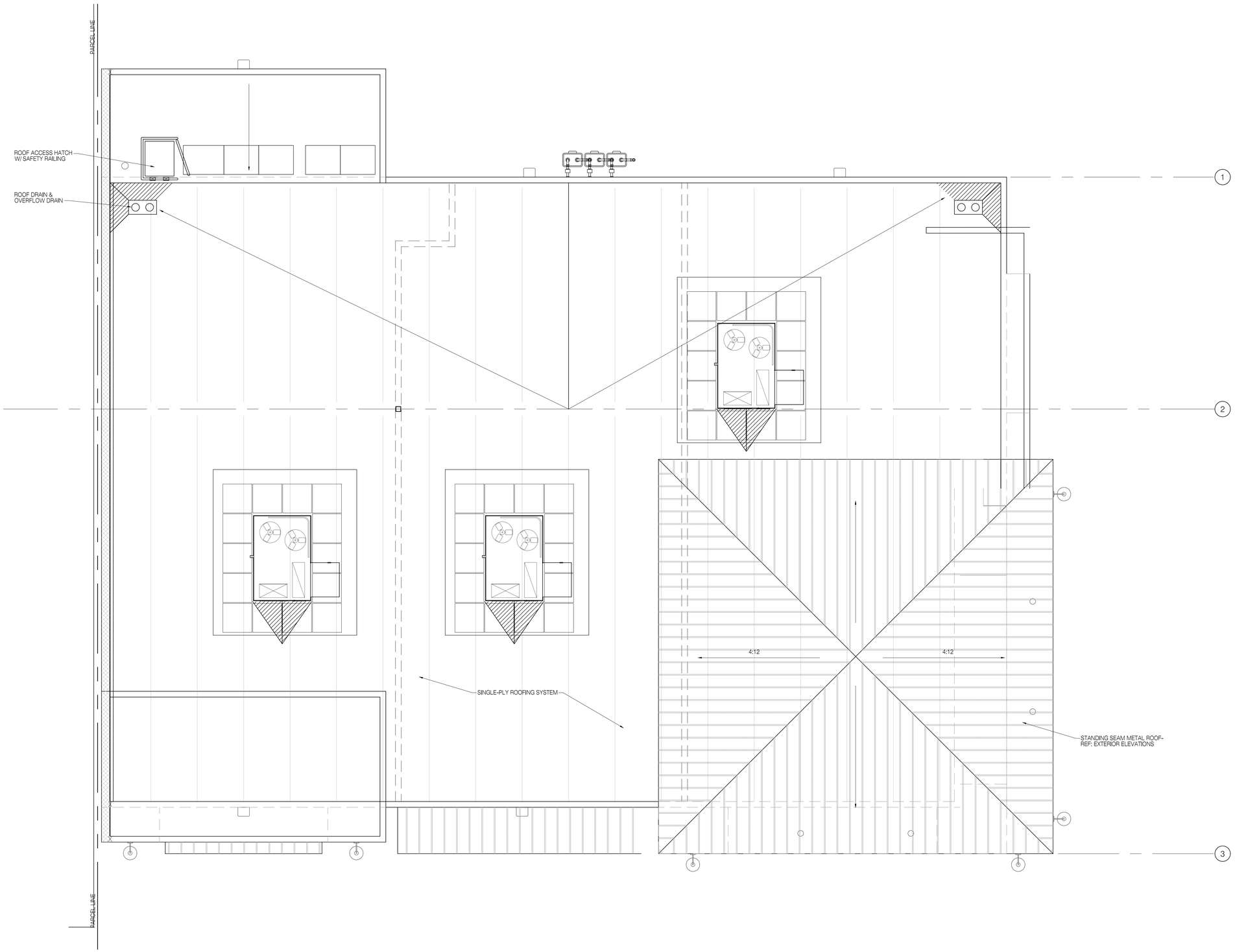
WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKPIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



SHOPS 1
ROOF PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

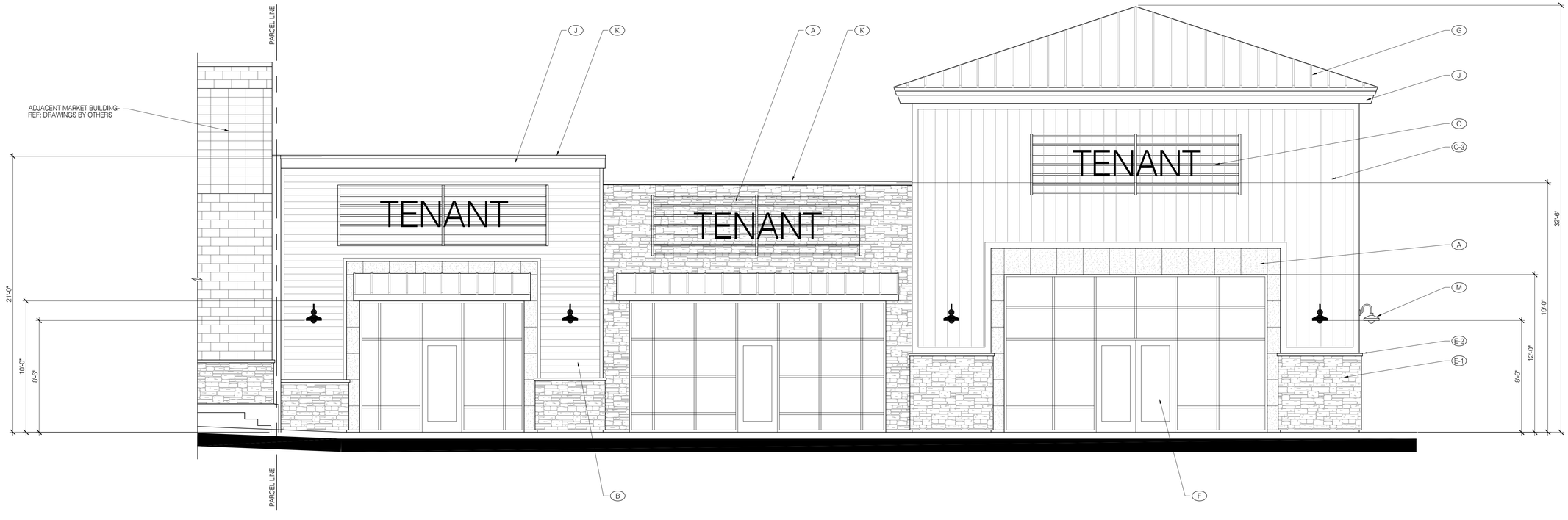
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

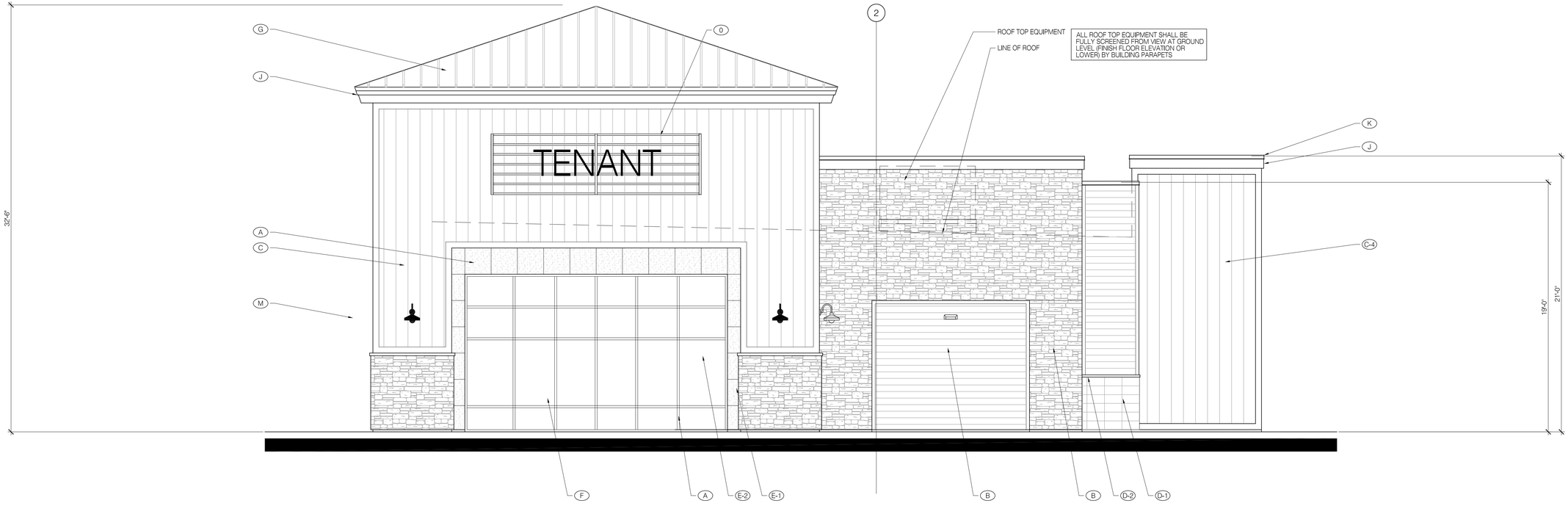
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SOUTH ELEVATION



EAST (WILDOMAR TRAIL) ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#/MF-#/L40K-UL-BZ

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

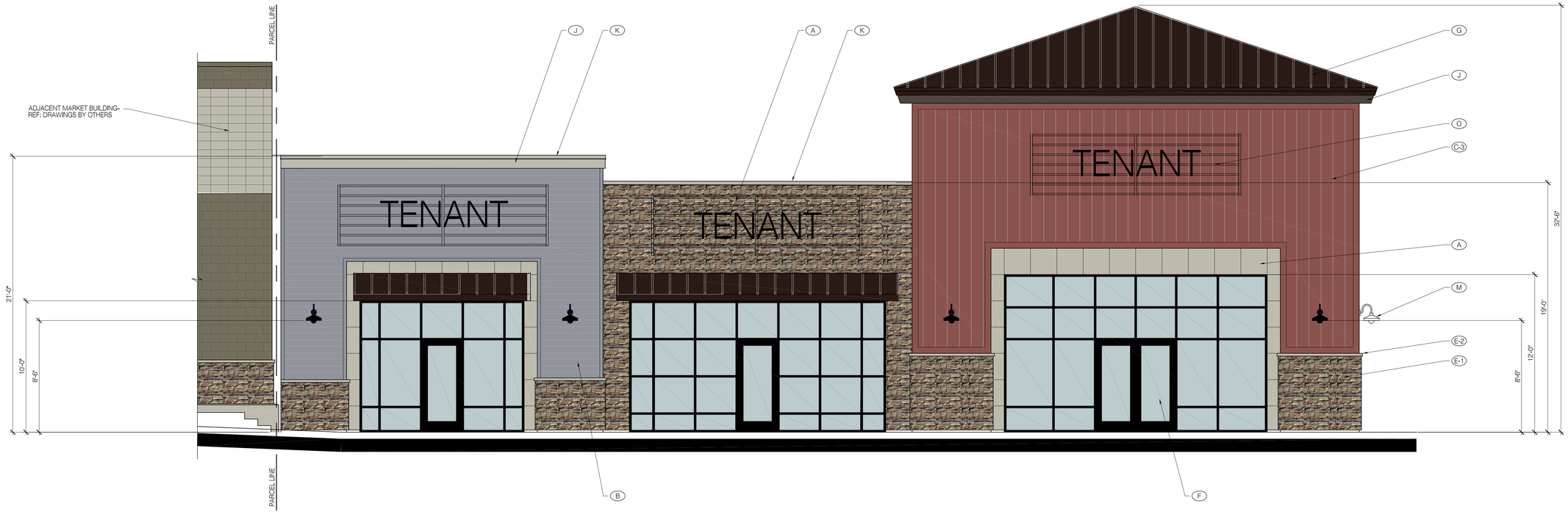
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

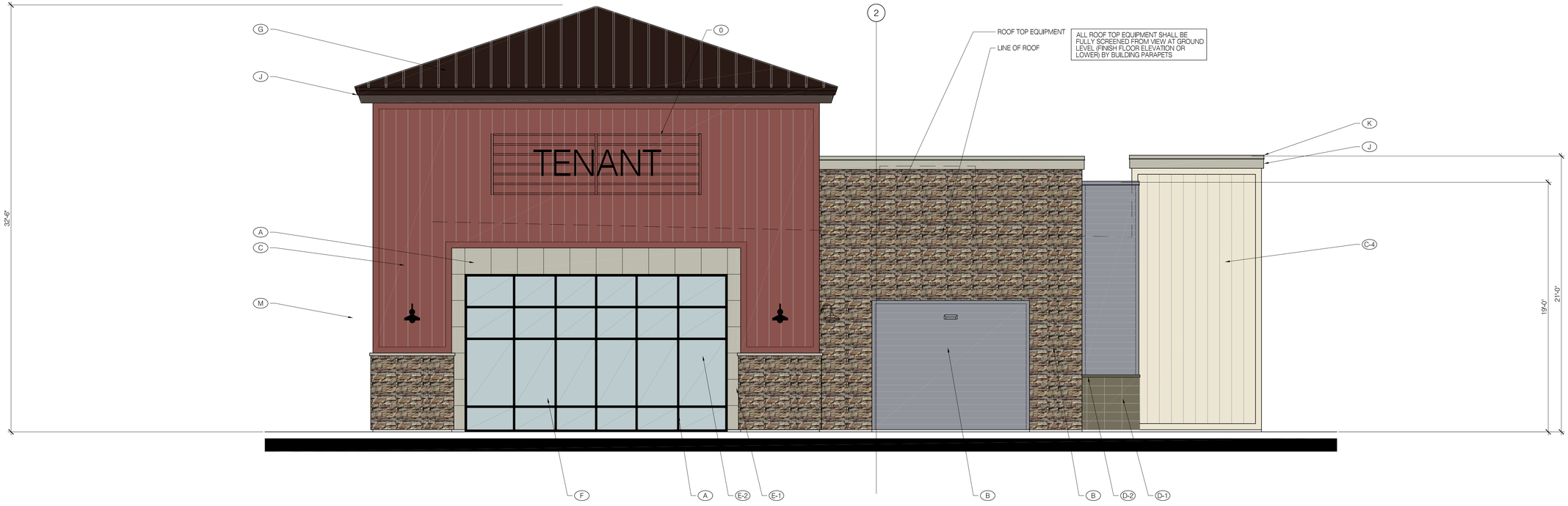
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKPIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SOUTH ELEVATION



EAST (WILDOMAR TRAIL) ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#MF-#L-40K-UL-BZ

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

EXTERIOR MATERIALS & FINISHES

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

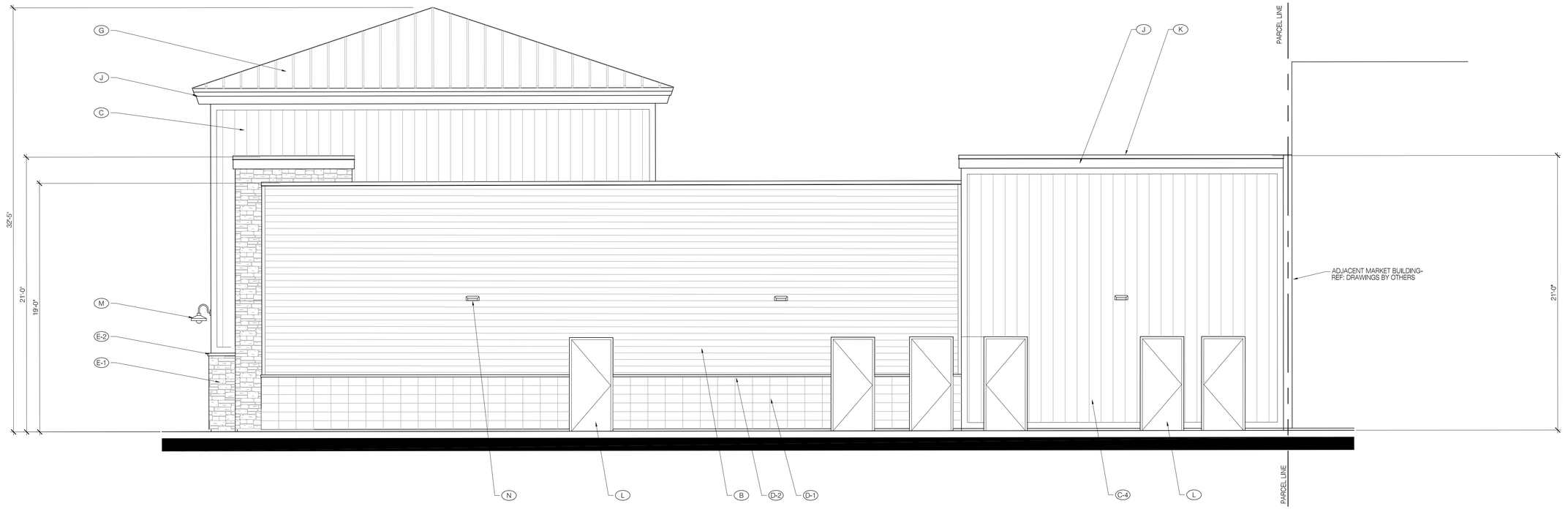
(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM



NORTH ELEVATION

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

EXTERIOR MATERIALS & FINISHES

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

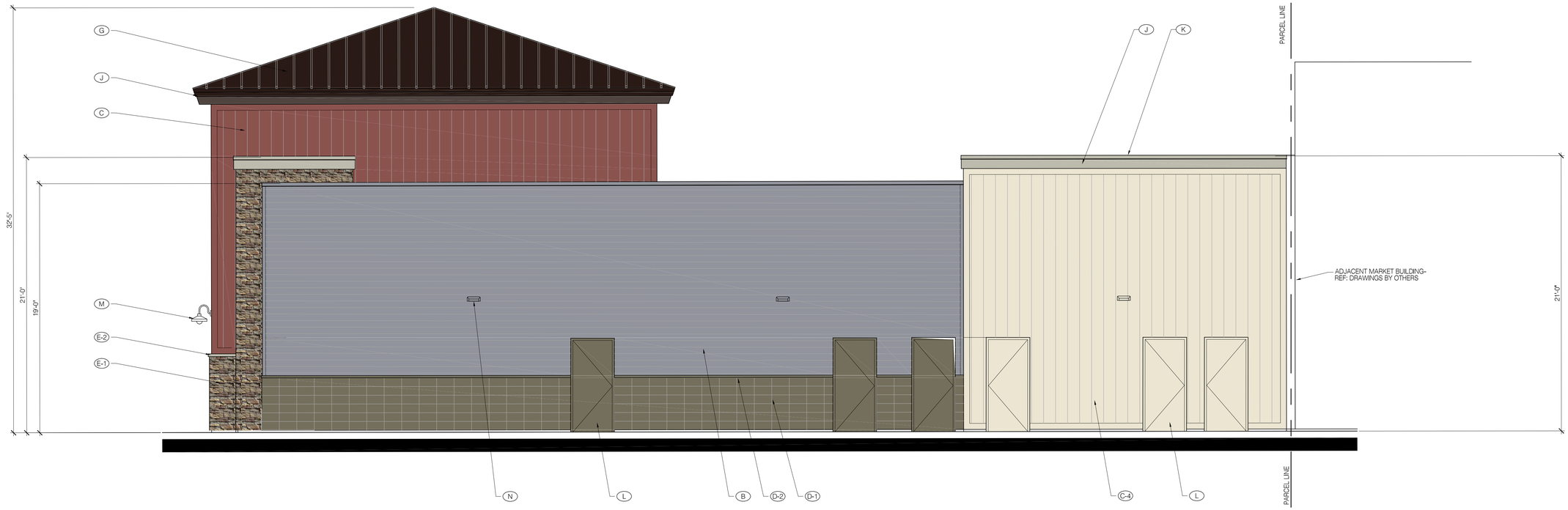
(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM



NORTH ELEVATION

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

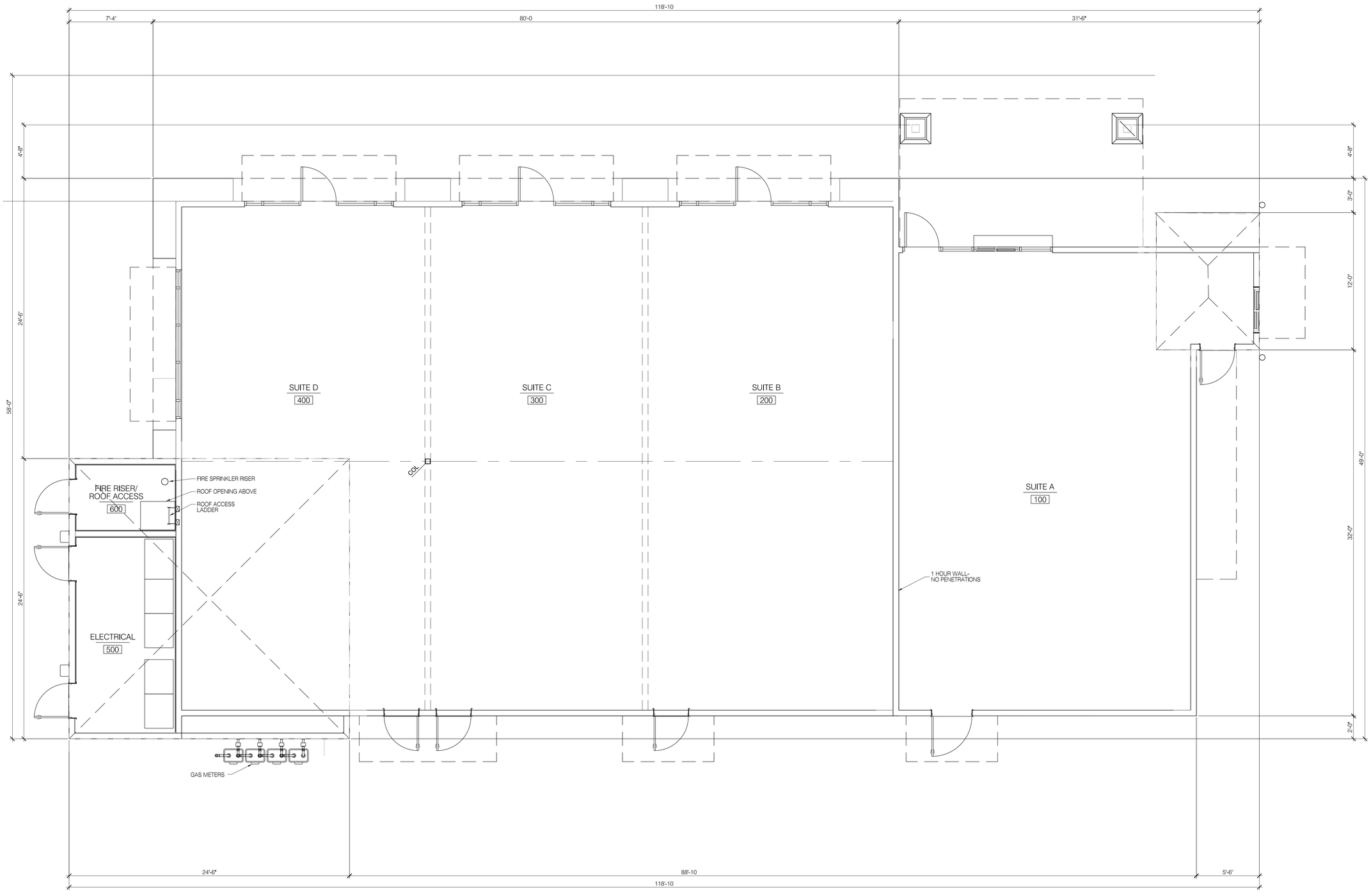
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



PROJECT DATA

2019 CBC

BUILDING AREA:	4,633 SF
TYPE OF CONSTRUCTION:	V-N (FIRE SPRINKLERED)
OCCUPANCY:	A-2/ M

PAD 1
FLOOR PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

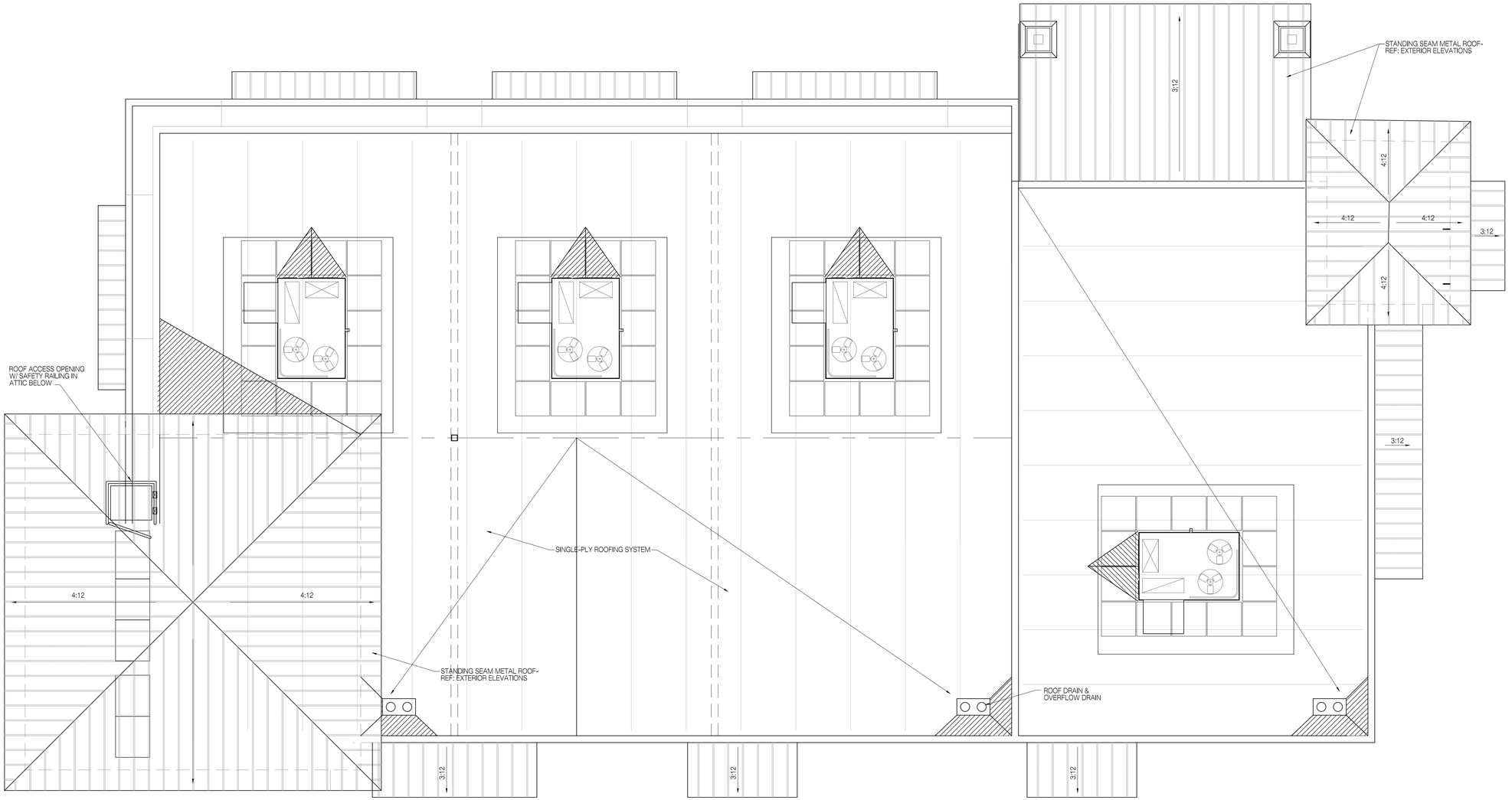
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



PAD 1
ROOF PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

WILDOMAR CROSSROADS

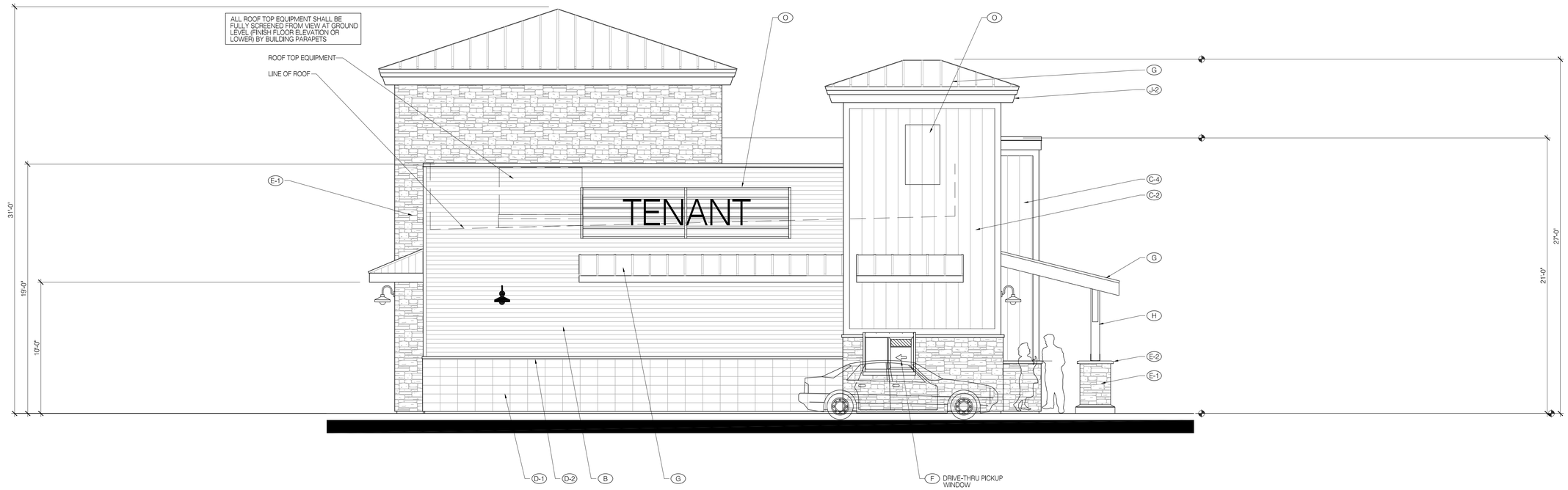
WILDOMAR, CALIFORNIA

SAGE INVESTCO

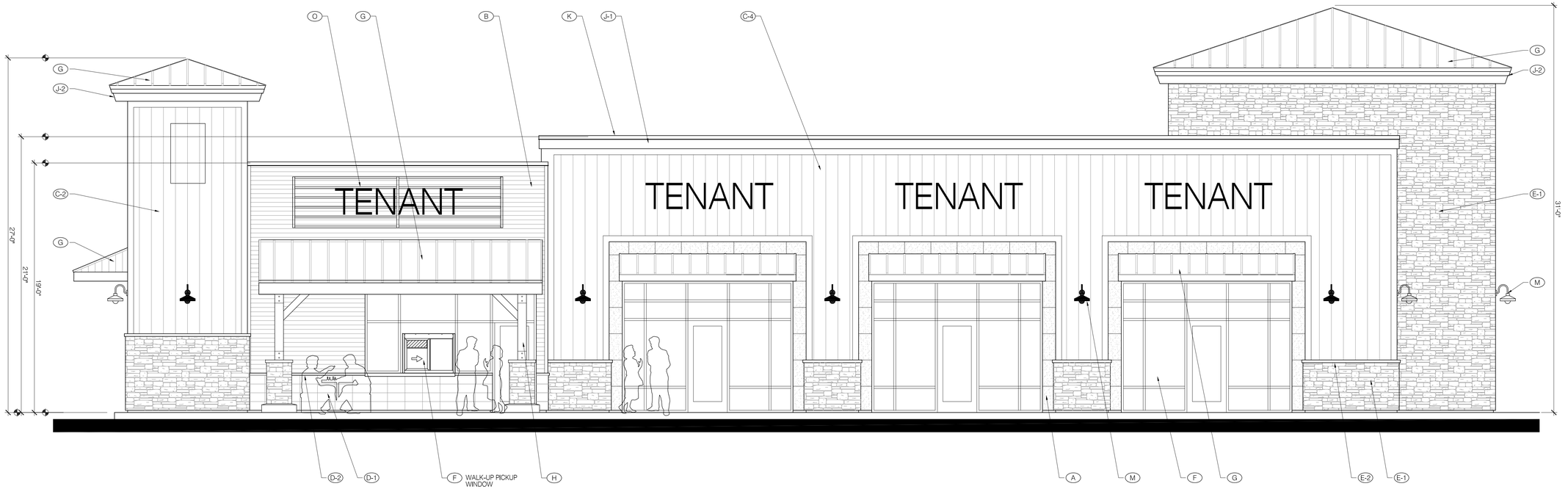
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



SOUTH (CLINTON KEITH ROAD) ELEVATION



EAST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE- MFR/ PATTERN: ABK/ DOWNTOWN COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM MFR: IMETCO COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER- CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM- COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE- STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO" METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED) COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED) COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED) COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIVE LIGHT FIXTURE- "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED) HILITE H-CDSPRTS-45972 COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE- CREE XSPW-B-WM-#ME-#L-40K-UL-BZ REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT- REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

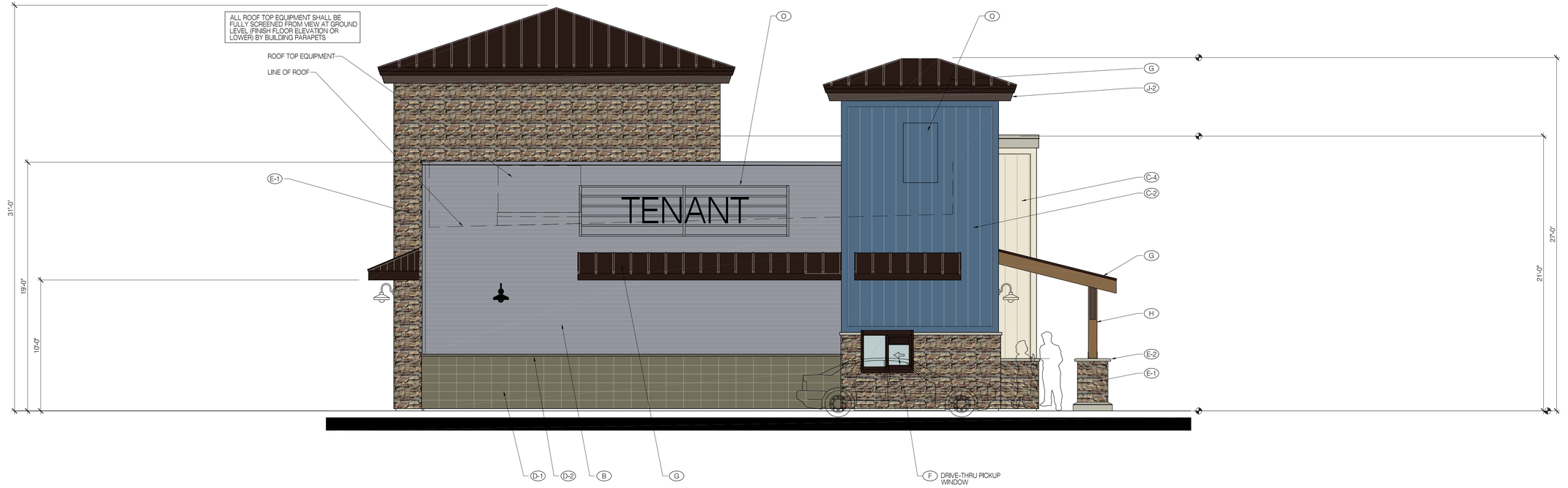
PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SOUTH (CLINTON KEITH ROAD) ELEVATION



EAST ELEVATION

EXTERIOR MATERIALS & FINISHES

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

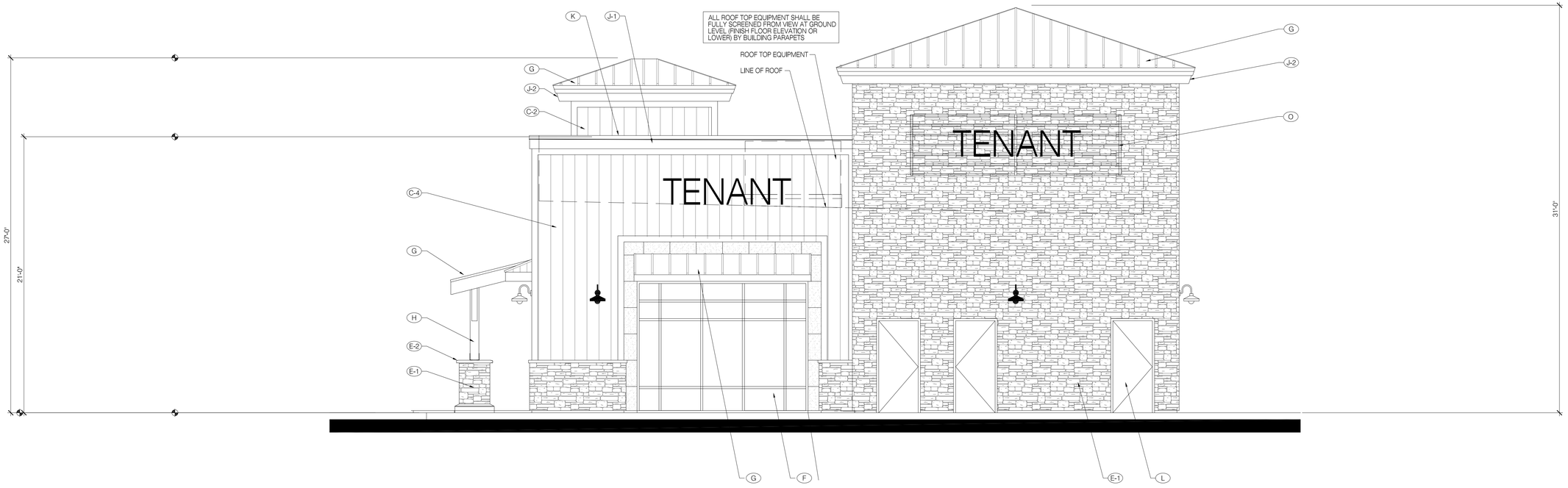
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720
©GK PIERCE ARCHITECTS, INC. 2022

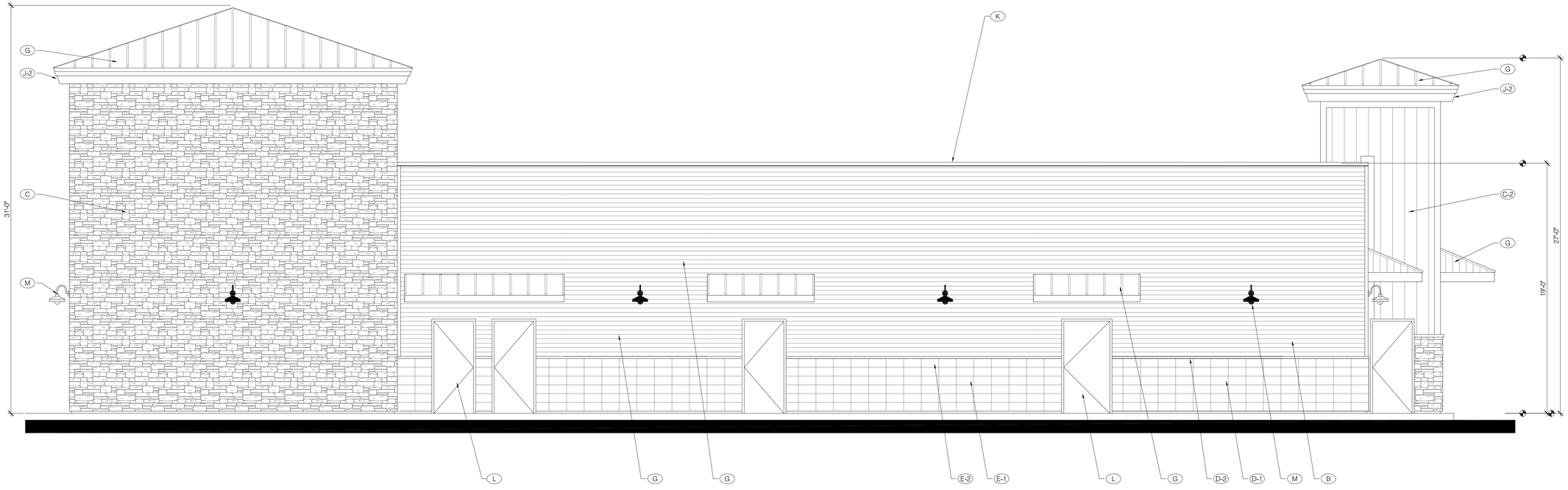
PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022



NORTH ELEVATION



WEST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

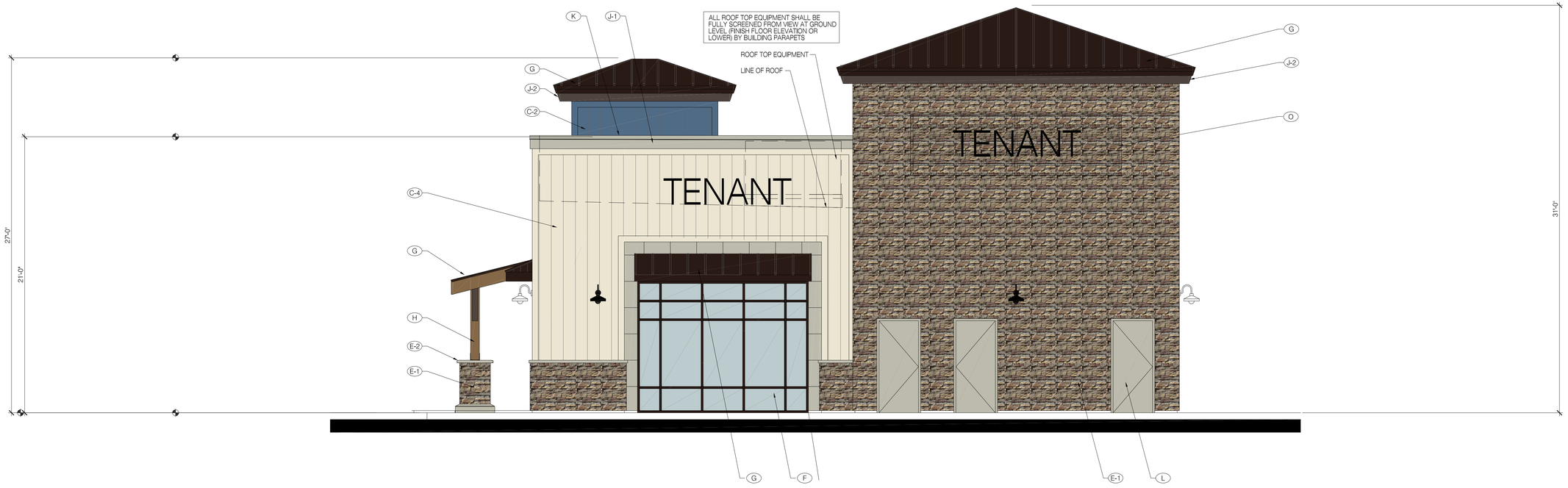
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

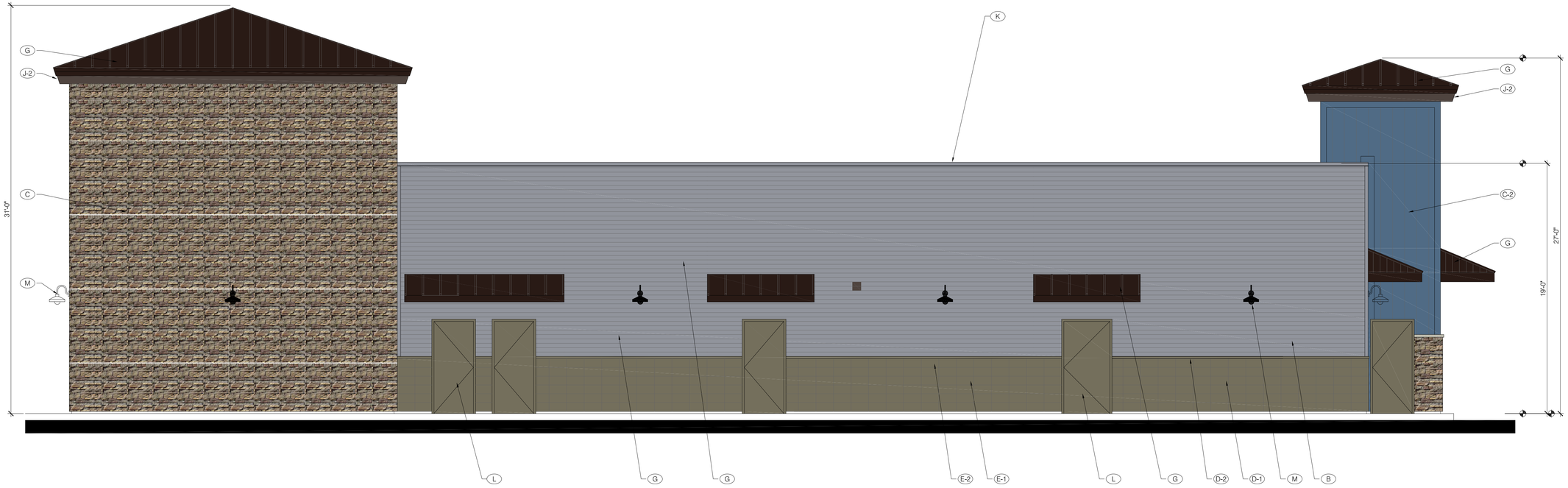
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



NORTH ELEVATION



WEST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

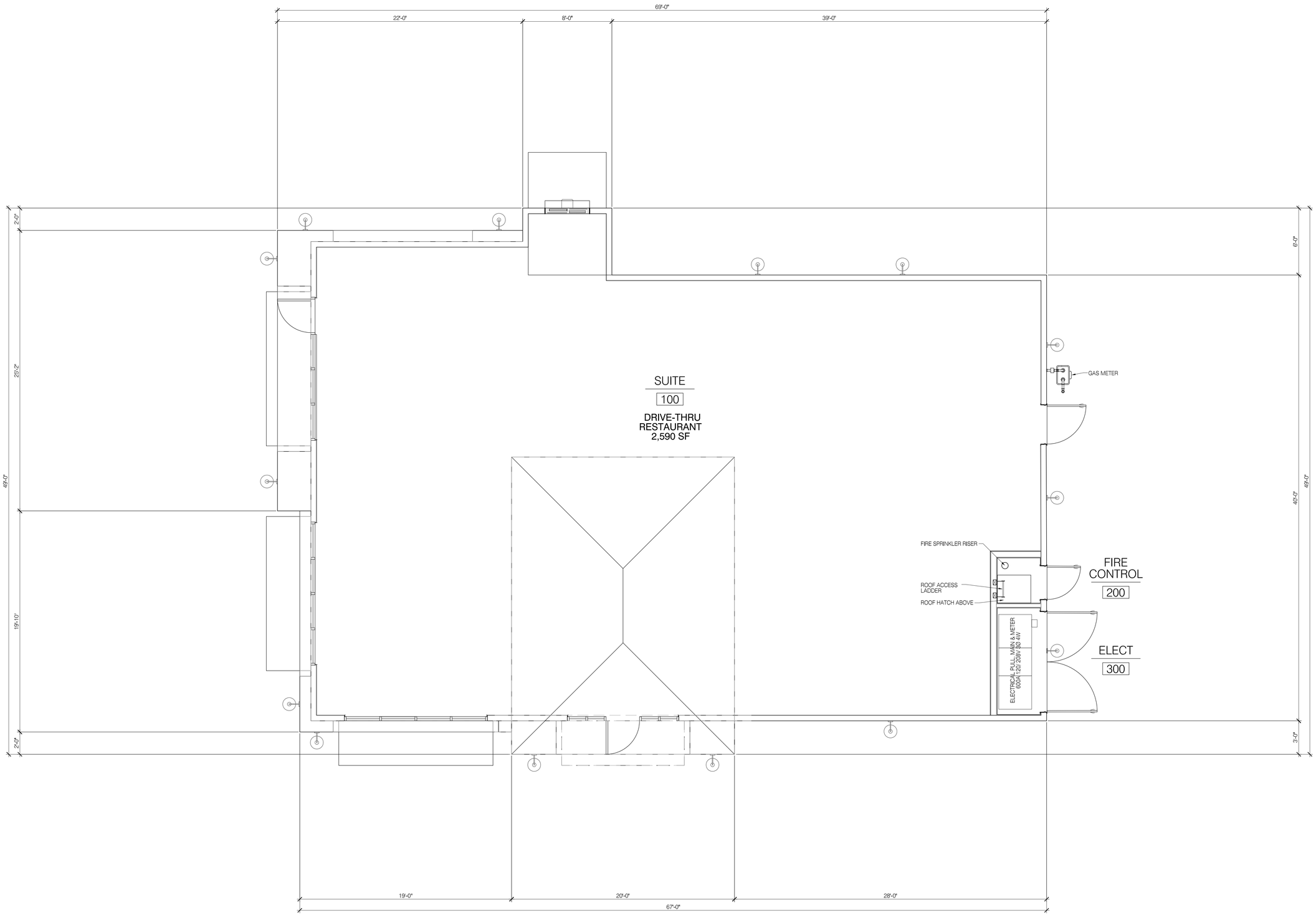
PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



PROJECT DATA

2019 CBC

BUILDING AREA:	2,590 SF
TYPE OF CONSTRUCTION:	V-N (FIRE SPRINKLERED)
OCCUPANCY:	A-2

PAD 2
FLOOR PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

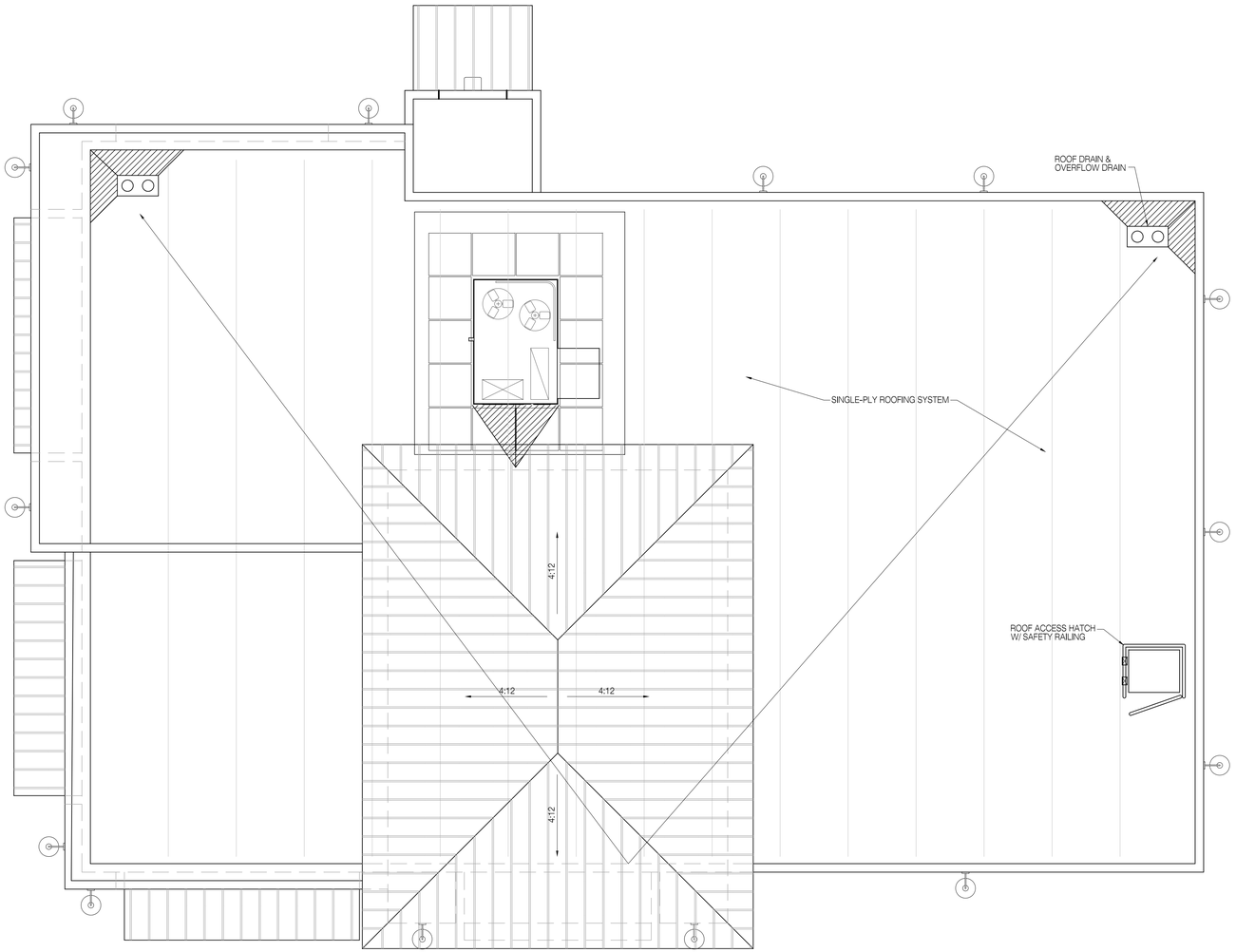
SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS

3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



PAD 2
ROOF PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO

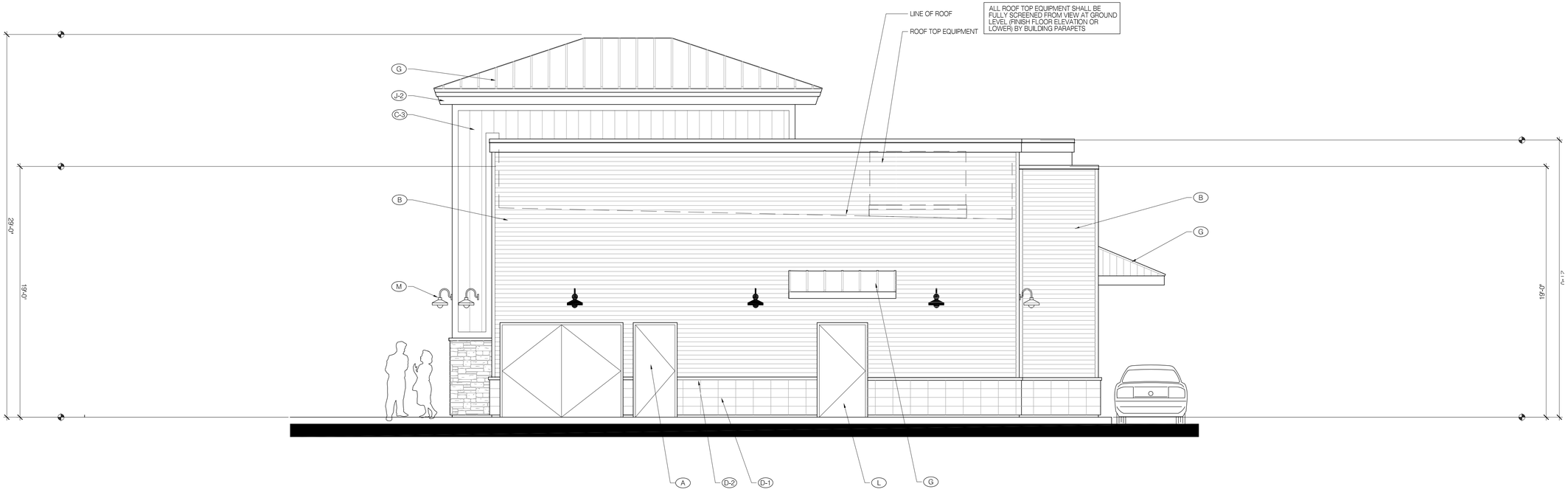
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



NORTHWEST ELEVATION



SOUTHWEST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

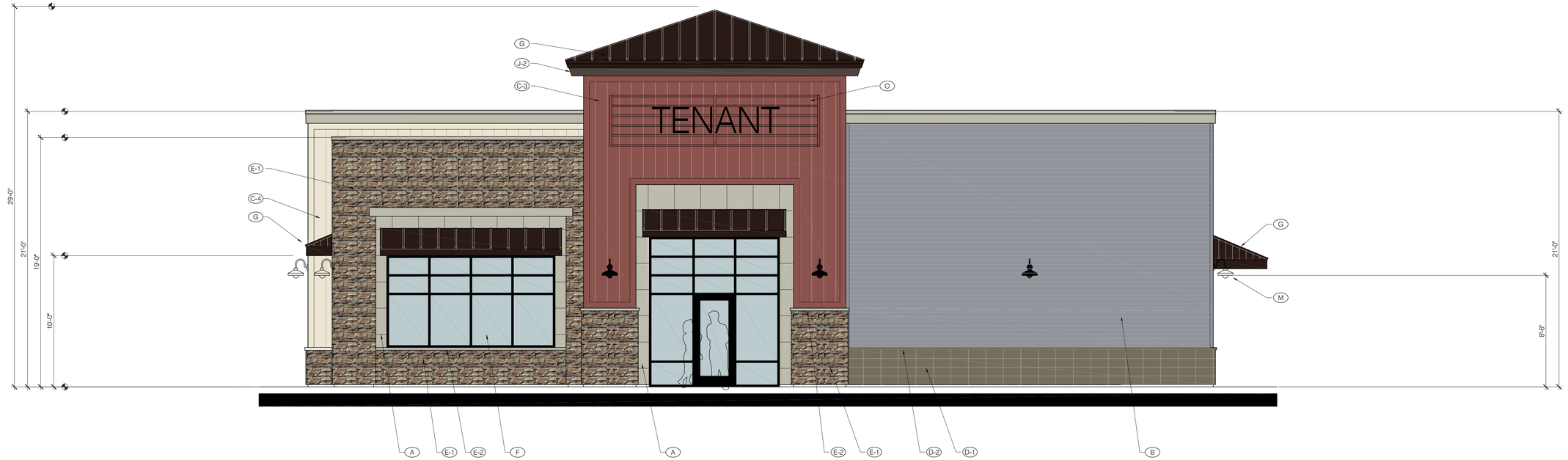
PAD 2
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

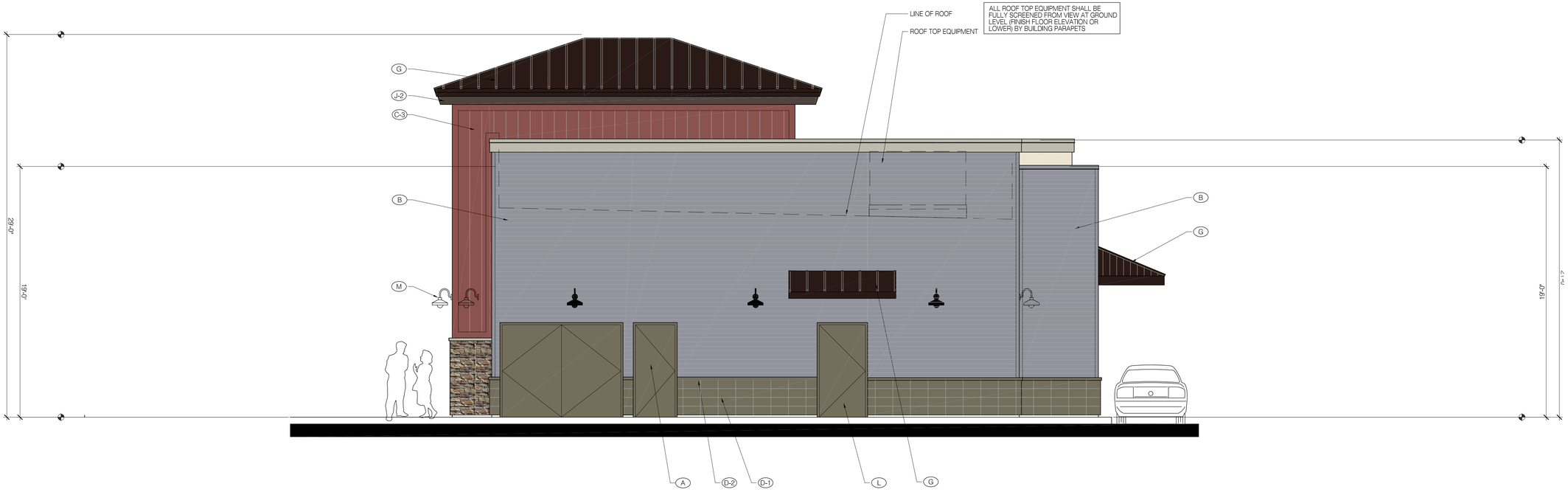
GKPA PROJECT #21108.01
23 JUNE 2022

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



NORTHWEST ELEVATION



SOUTHWEST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

PAD 2
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

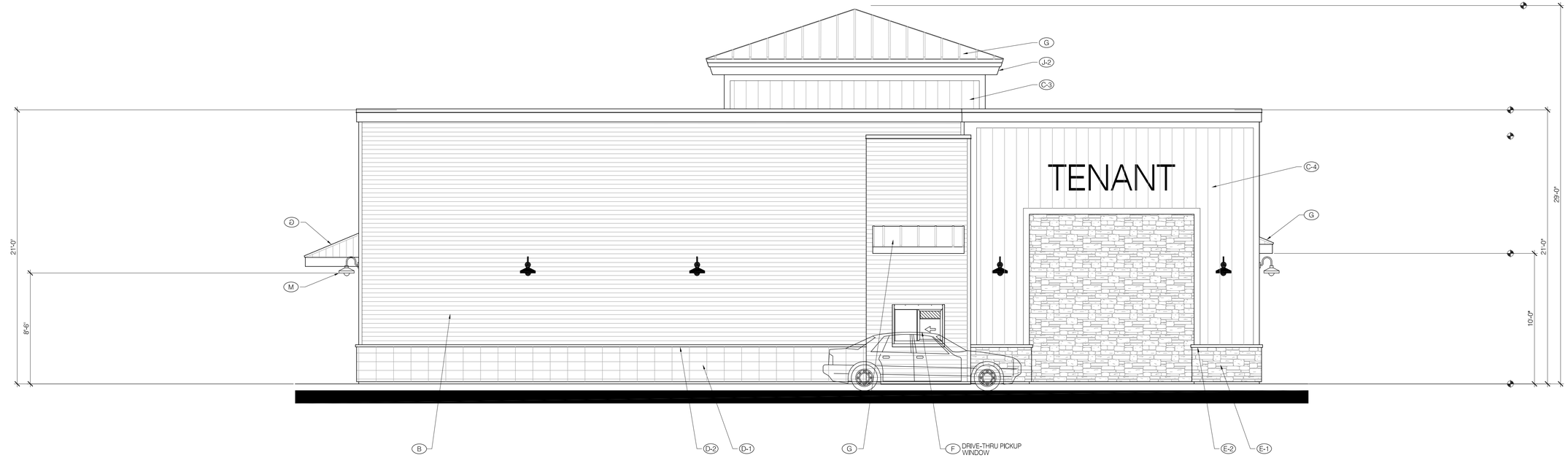
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

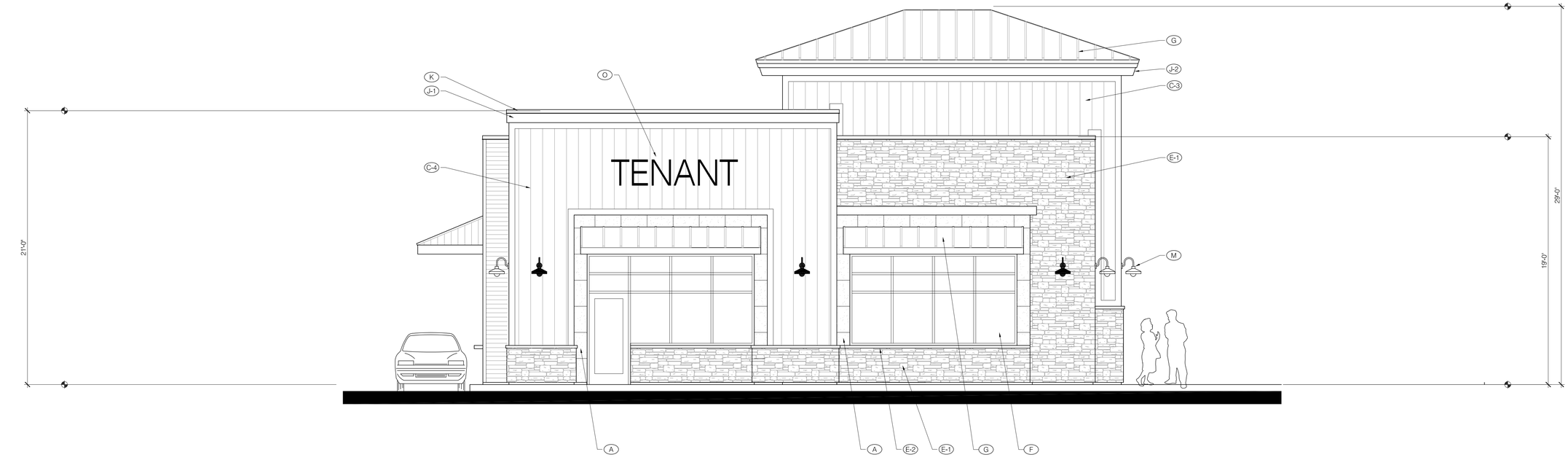
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



SOUTHEAST ELEVATION



NORTHEAST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

PAD 2
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

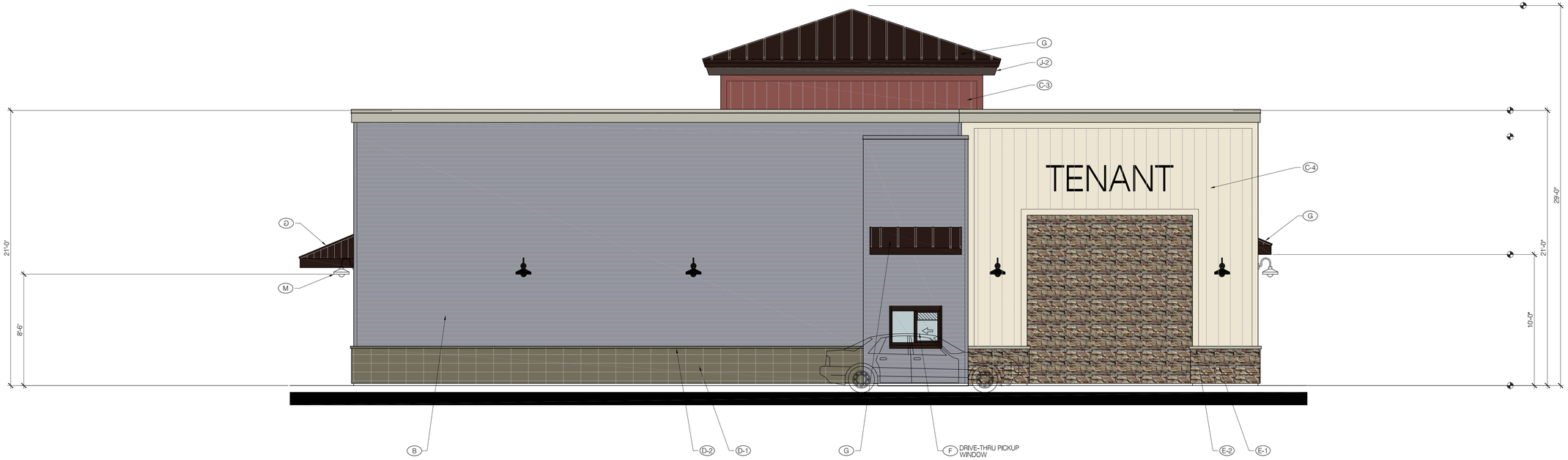
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

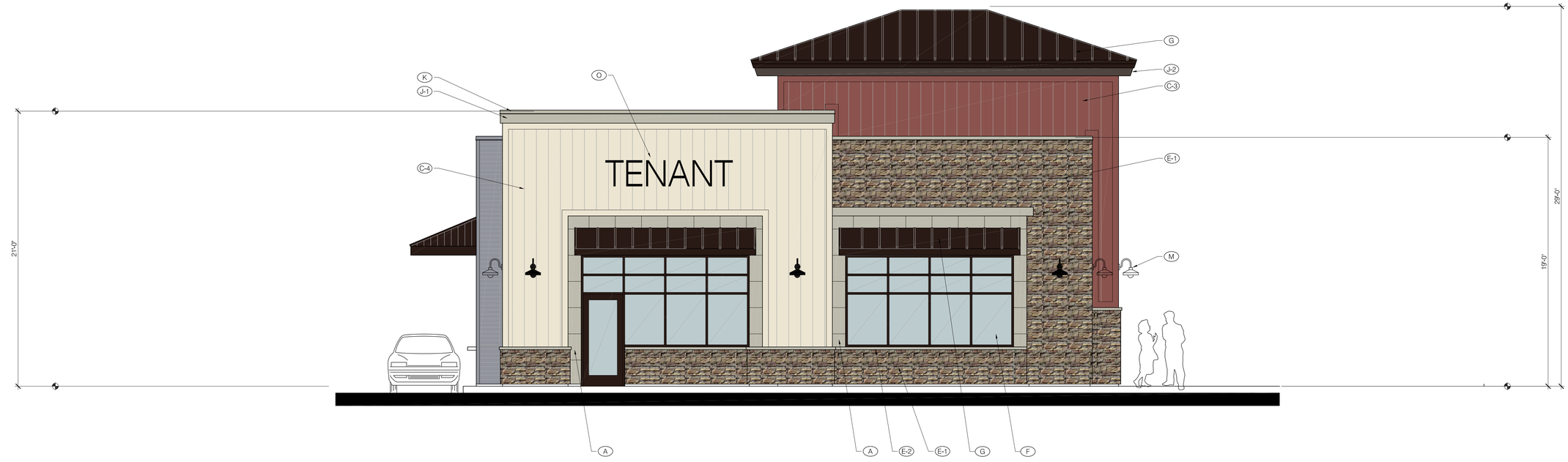
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SOUTHEAST ELEVATION



NORTHEAST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

PAD 2
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

PAINT-
PPG 1099-1 "ALWAYS ALMOND"



PAINT-
PPG 1032-2 "HURRICANE HAZE"



PAINT-
PPG 1028-6 "MOMENTUM"



PAINT-
PPG 1142-6 "JERICHO JADE"



PAINT-
SHERWIN WILLIAMS SW 6523
"DENIM"



PAINT-
SHERWIN WILLIAMS SW 0006
"TOILE RED"



METAL ROOFING-
BERRIDGE "AGED BRONZE"



CORRUGATED SIDING-
IMETCO LATITUDE HORIZONTAL
"WEATHERED GALVALUME"



PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH



PAINT-
PPG 1005-7 "DARK GRANITE"



STAINED WOOD-
FLOOD SEMI-TRANSPARENT STAIN
"707 "TOBACCO



MANUFACTURED STONE SILL-
CORONADO STONE
900 SERIES "GREY"



MANUFACTURED STONE VENEER-
CORONADO STONE
OLD WORLD LEDGE- "MONARCH"



DECORATIVE "SMOOT" TYPE LIGHT
FIXTURE (GOOSENECK MOUNT)
COLOR:

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

COMMERCIAL DISTRICT
COLORS & MATERIALS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

BRR ARCHITECTURE, INC.
DALLAS, TX

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021



CONCEPTUAL PERSPECTIVE

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 SOUTH



BUILDING 1 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 SOUTH



BUILDING 1 NORTH

WILDOMAR CROSSROADS

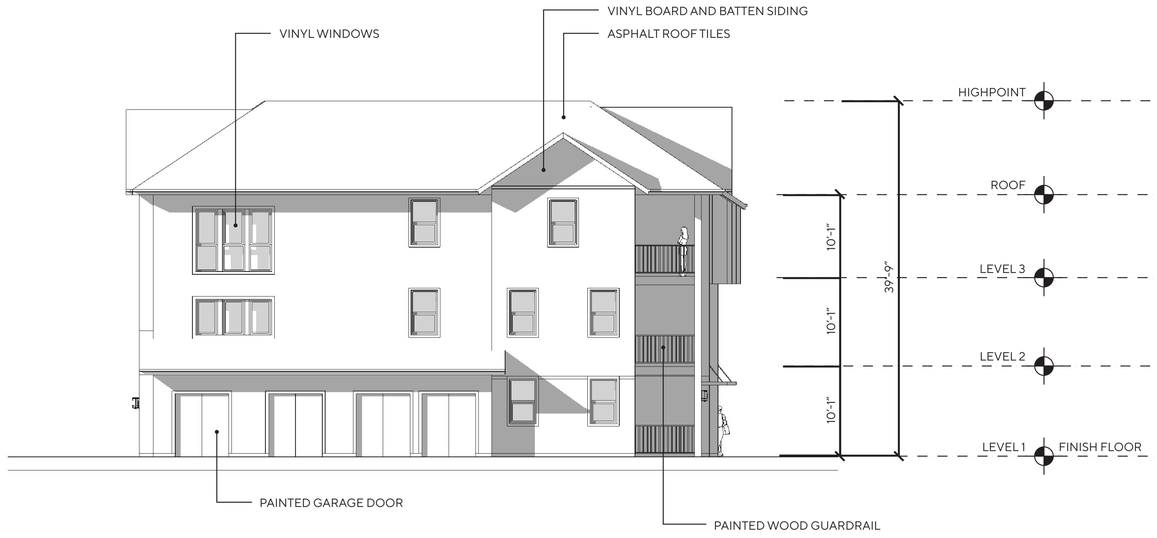
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

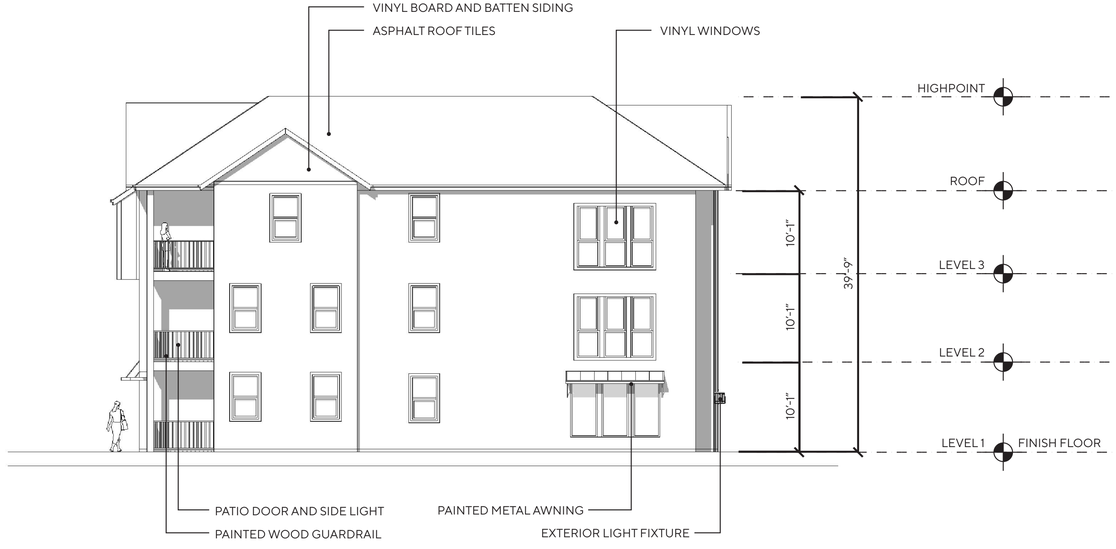
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 EAST



BUILDING 1 WEST

WILDOMAR CROSSROADS

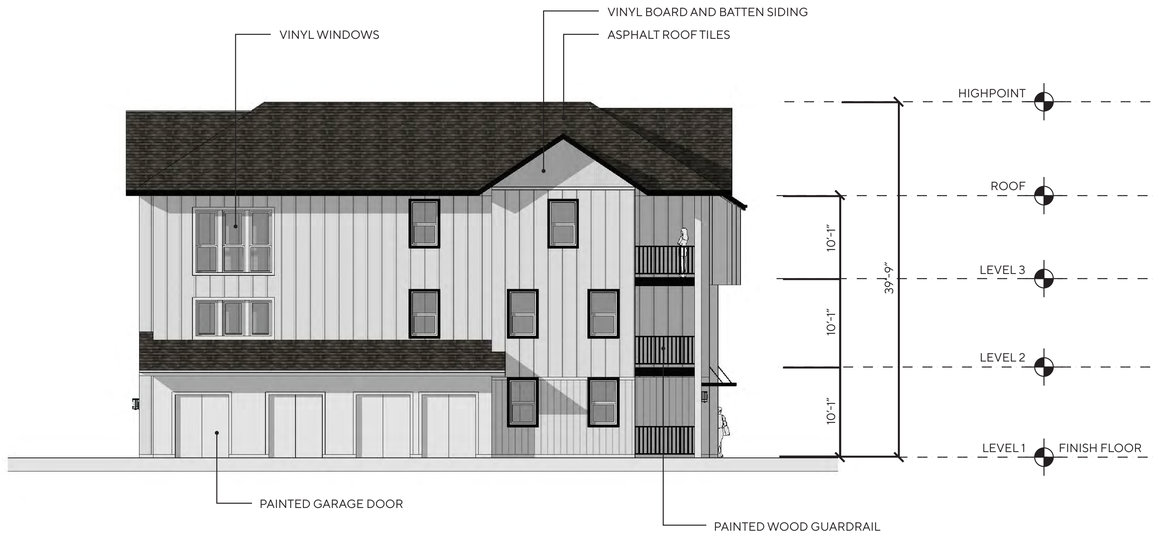
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

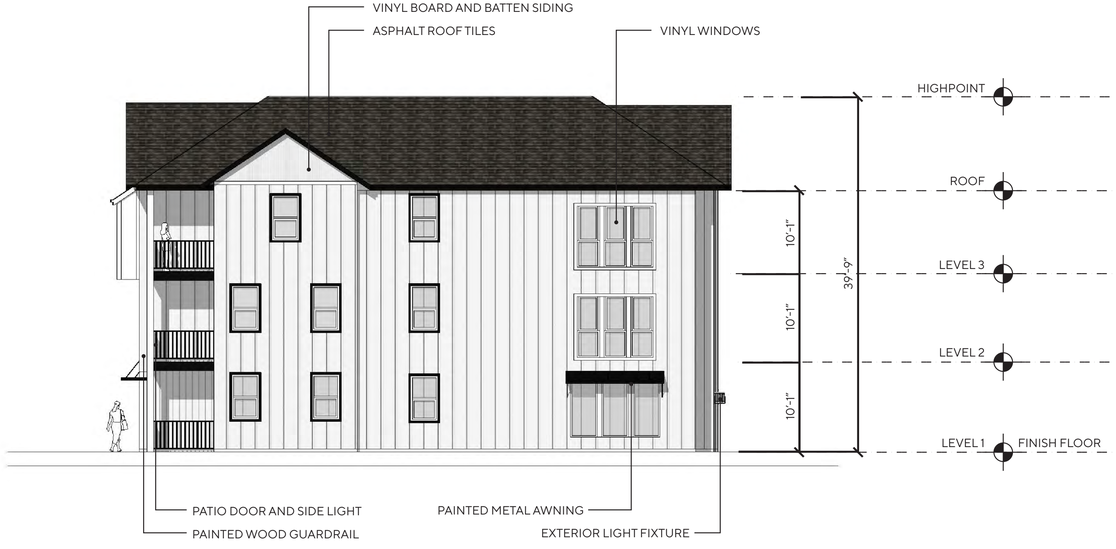
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 EAST



BUILDING 1 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 2 SOUTH



BUILDING 2 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 2 SOUTH



BUILDING 2 NORTH

WILDOMAR CROSSROADS

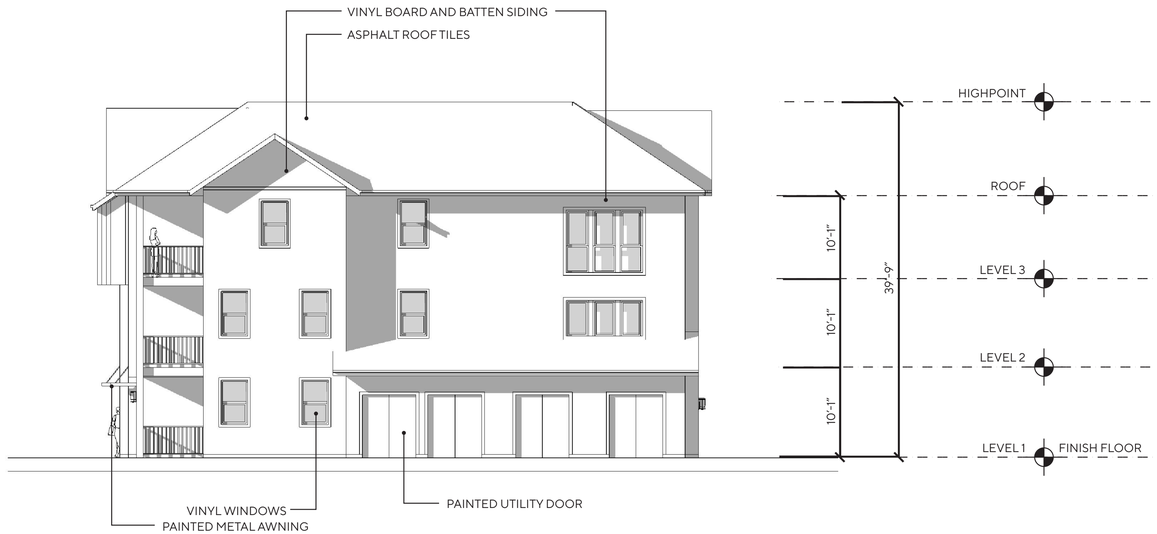
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

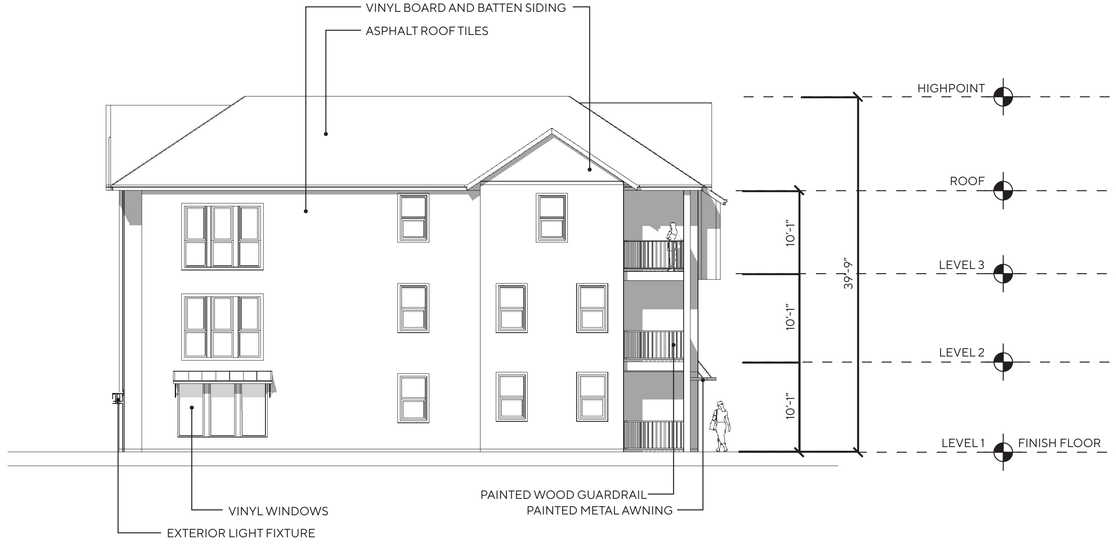
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 2 EAST



BUILDING 2 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

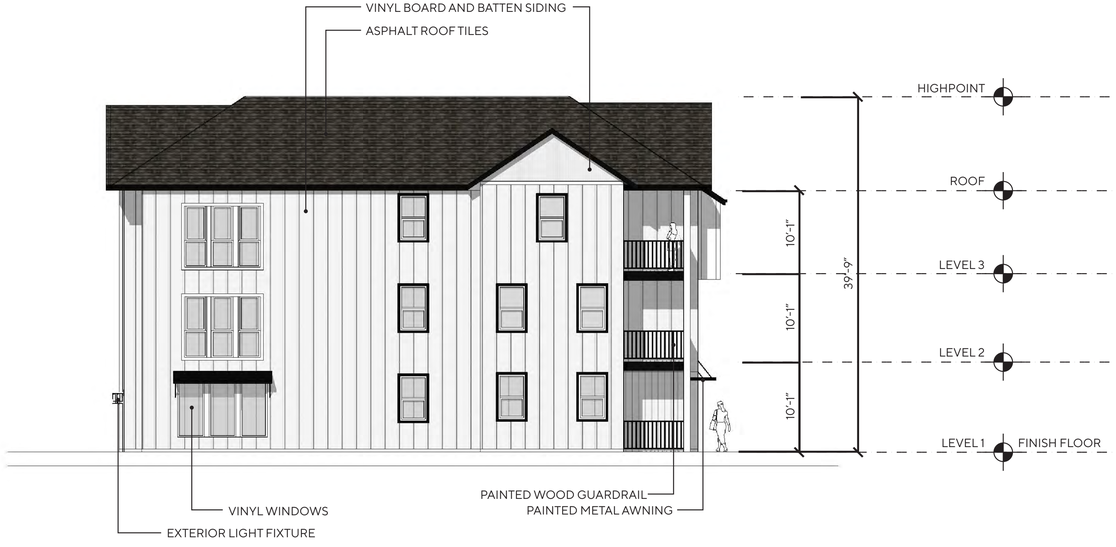
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 2 EAST



BUILDING 2 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 3 SOUTH



BUILDING 3 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 3 SOUTH



BUILDING 3 NORTH

WILDOMAR CROSSROADS

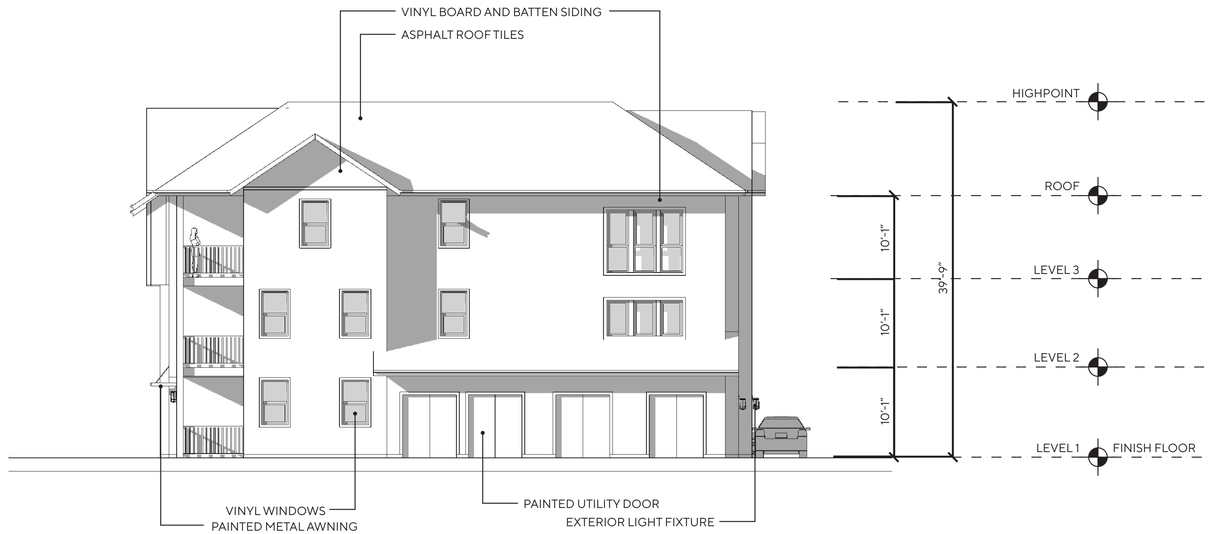
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 3 EAST



BUILDING 3 WEST

WILDOMAR CROSSROADS

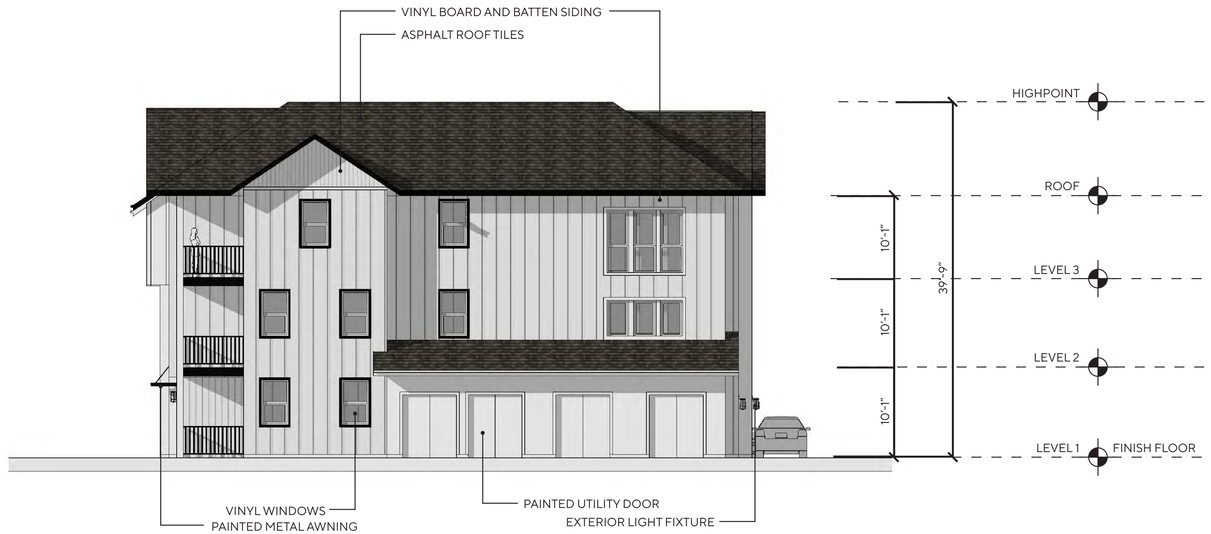
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 3 EAST



BUILDING 3 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 SOUTH



BUILDING 4 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 SOUTH



BUILDING 4 NORTH

WILDOMAR CROSSROADS

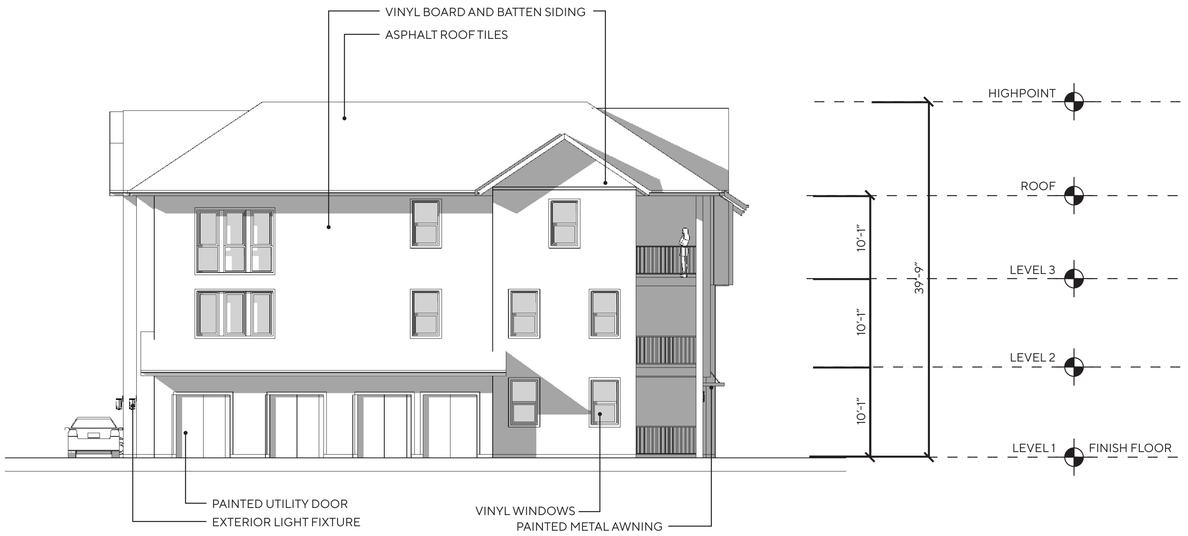
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

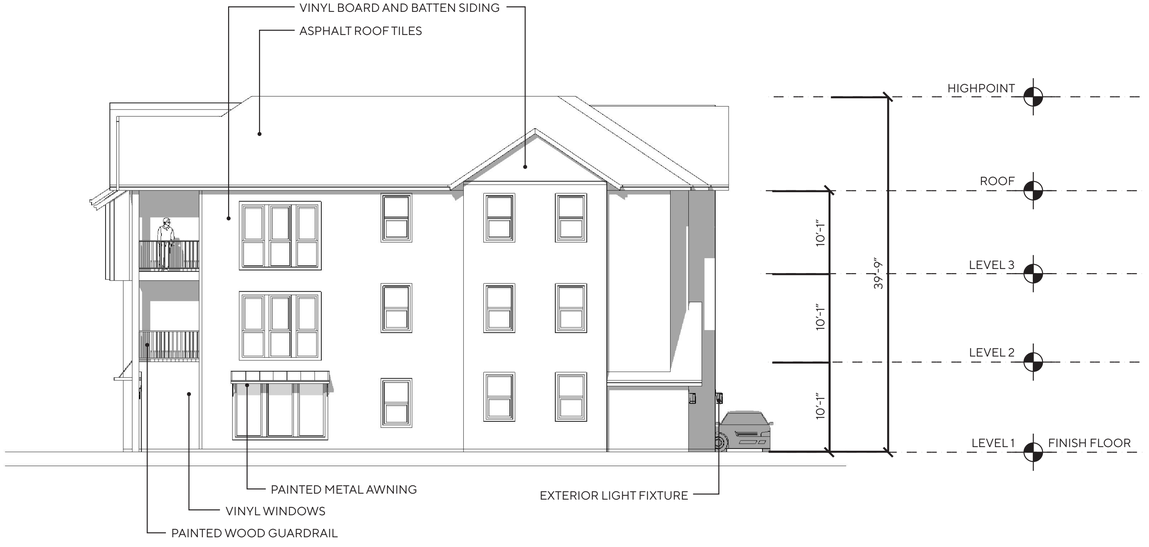
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 EAST



BUILDING 4 WEST

WILDOMAR CROSSROADS

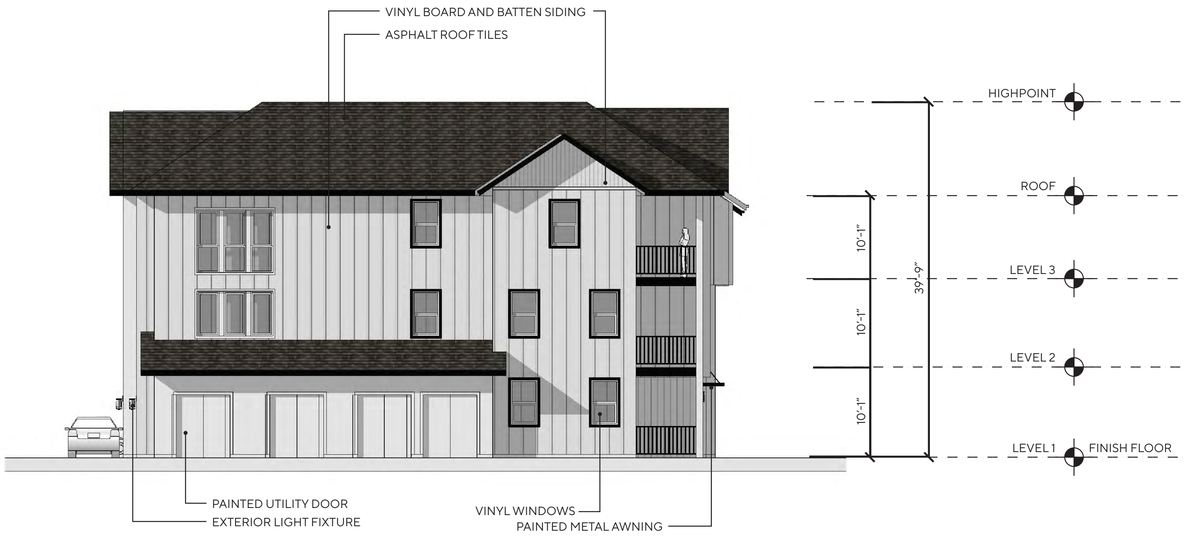
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 EAST



BUILDING 4 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 SOUTH

BUILDING 5 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 SOUTH

BUILDING 5 NORTH

WILDOMAR CROSSROADS

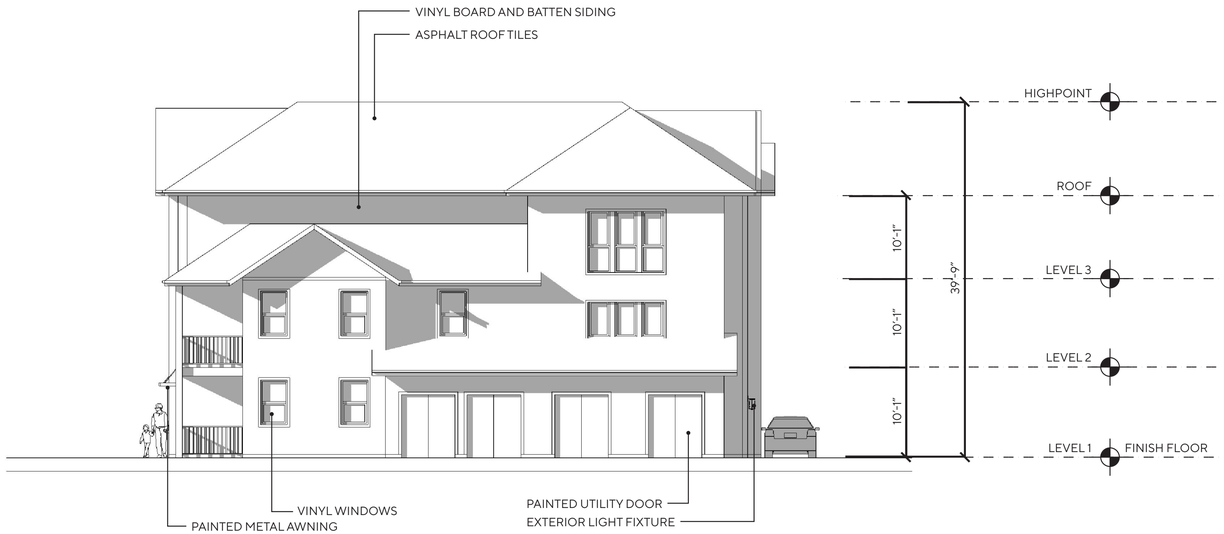
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

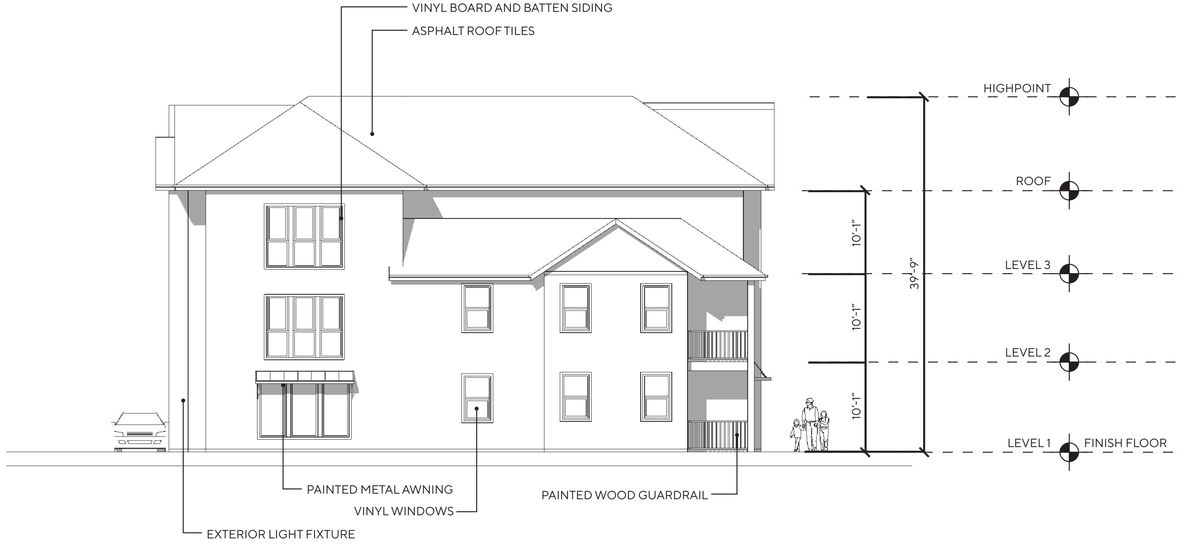
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 EAST



BUILDING 5 WEST

WILDOMAR CROSSROADS

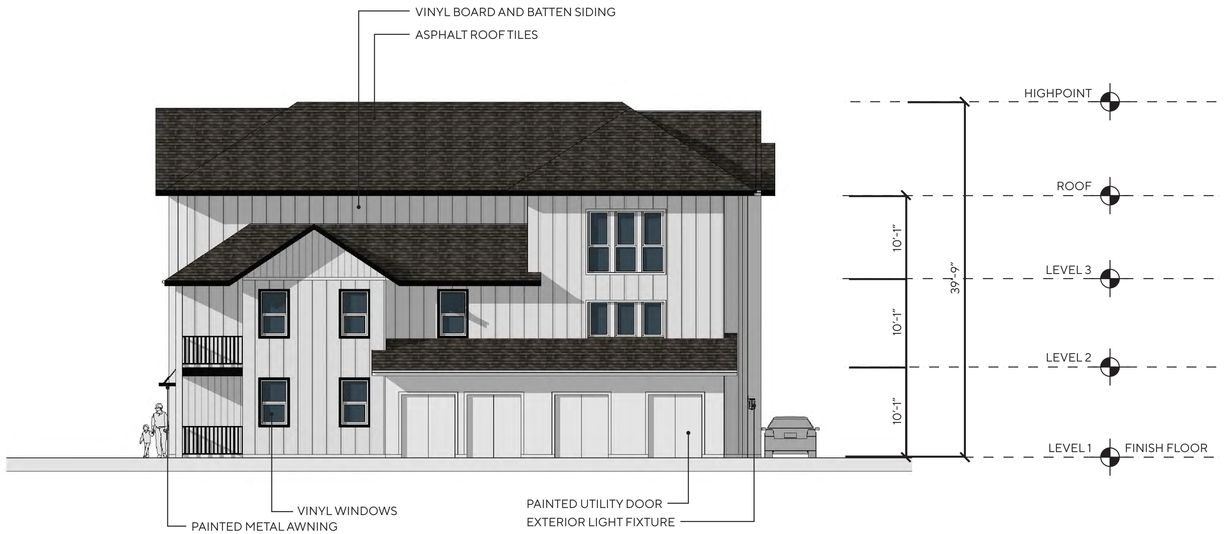
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

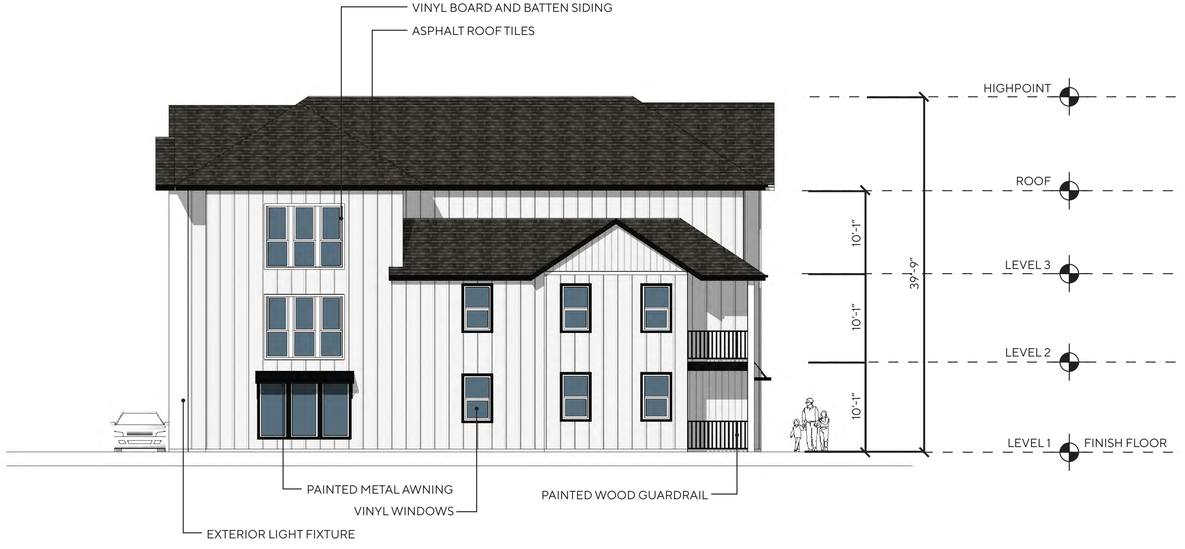
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 EAST



BUILDING 5 WEST

WILDOMAR CROSSROADS

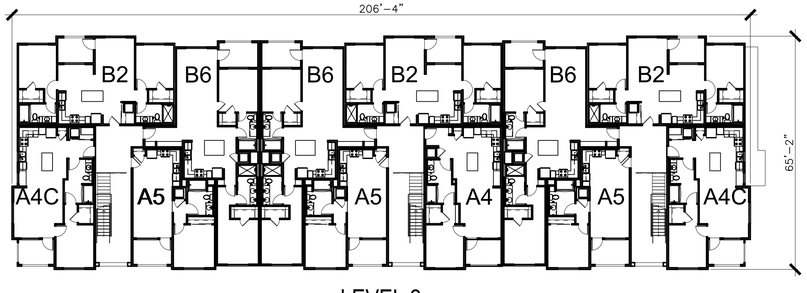
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

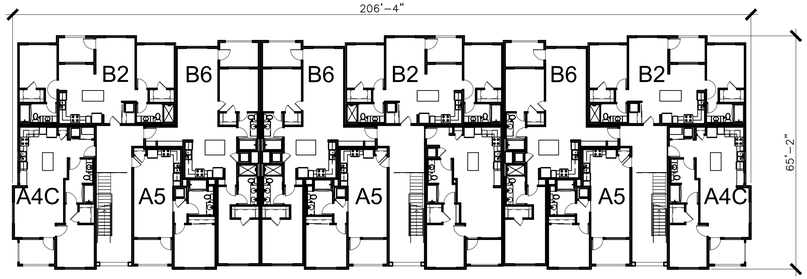
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

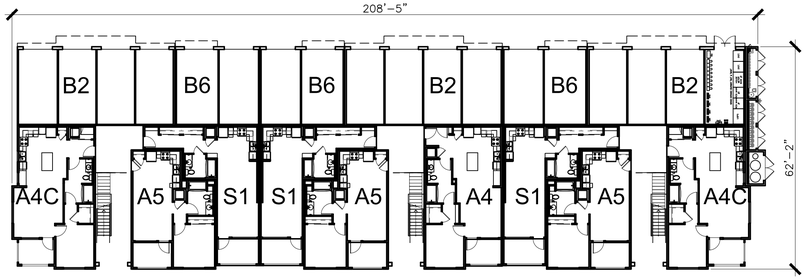
Architecture.
Design.
Relationships.



LEVEL 2



LEVEL 3



LEVEL 1

BUILDINGS 1 AND 2

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS - BLDGS. 1, 2

46

WILDOMAR CROSSROADS

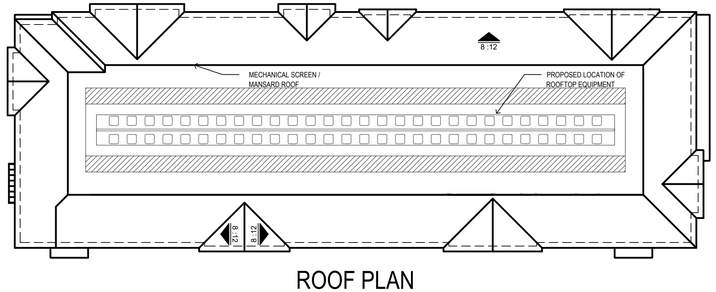
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

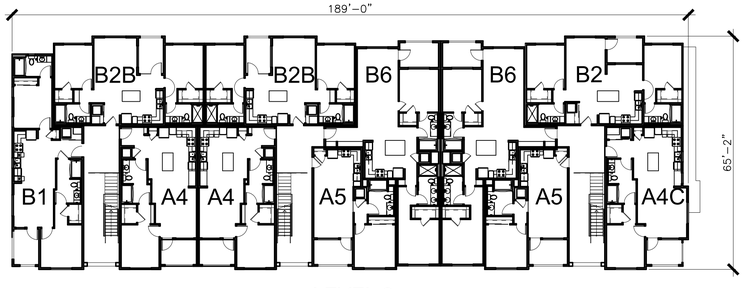
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

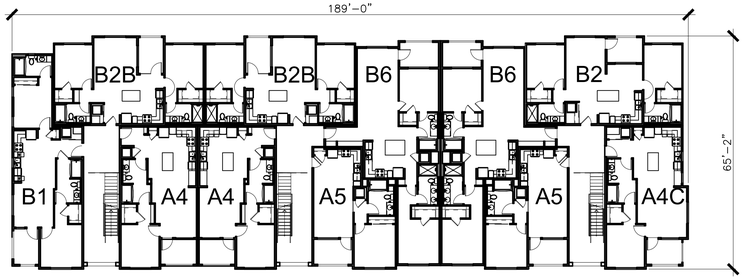
Architecture.
Design.
Relationships.



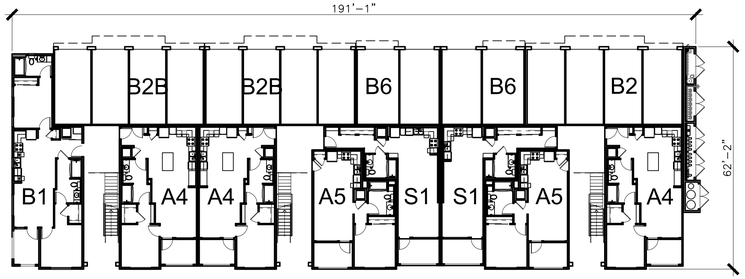
ROOF PLAN



LEVEL 2



LEVEL 3



LEVEL 1

BUILDING 3

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS AND ROOF PLAN - BLDG. 3

47

WILDOMAR CROSSROADS

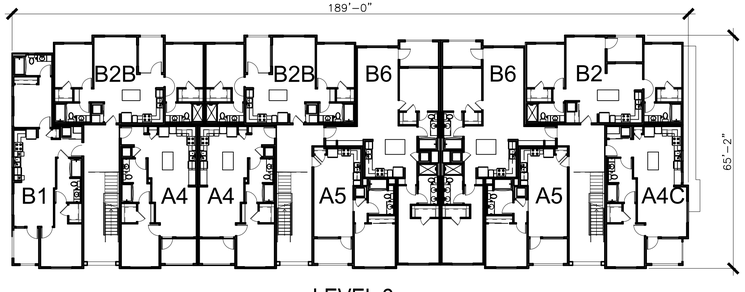
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

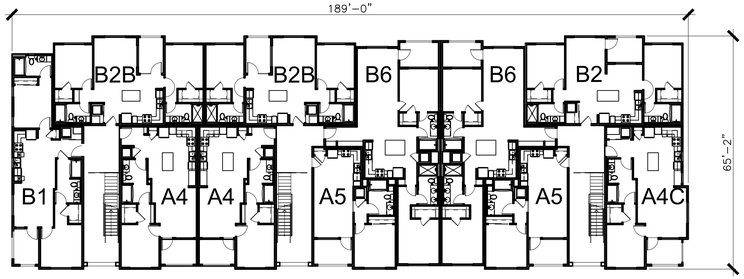
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

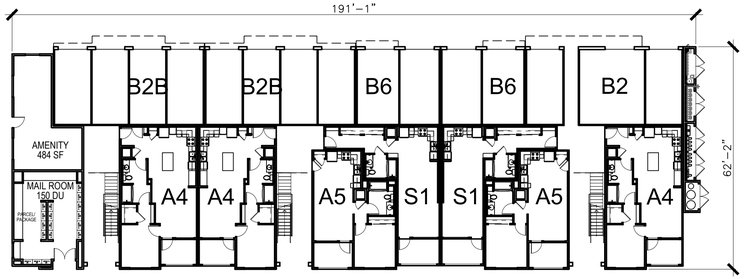
Architecture.
Design.
Relationships.



LEVEL 2



LEVEL 3



LEVEL 1

BUILDING 4

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS - BLDG. 4

WILDOMAR CROSSROADS

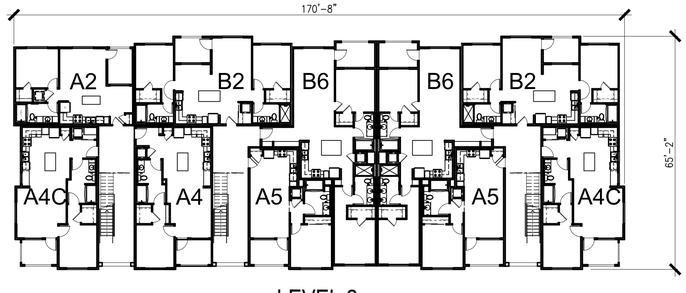
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

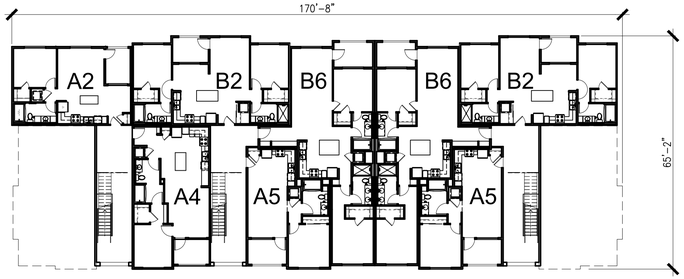
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

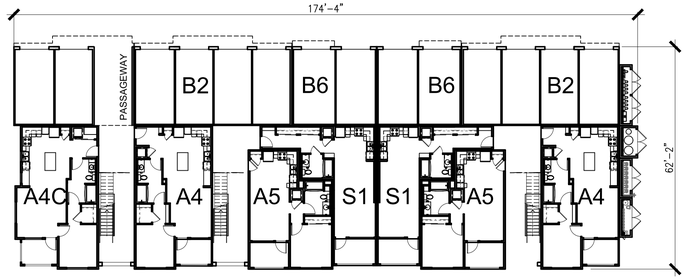
Architecture.
Design.
Relationships.



LEVEL 2



LEVEL 3



LEVEL 1

BUILDING 5

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS - BLDG. 5

WILDOMAR CROSSROADS

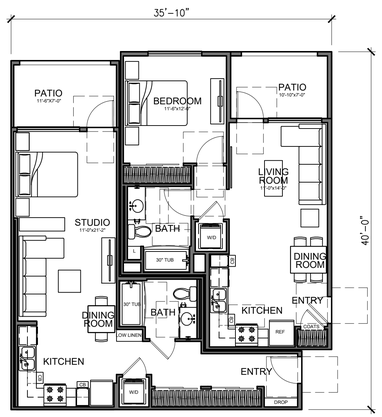
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

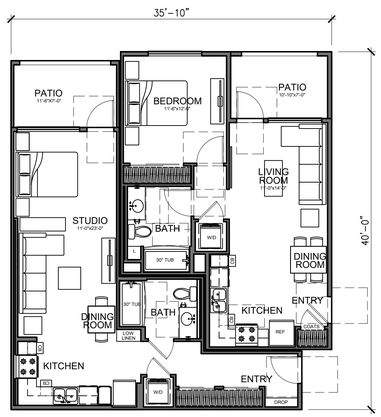
AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



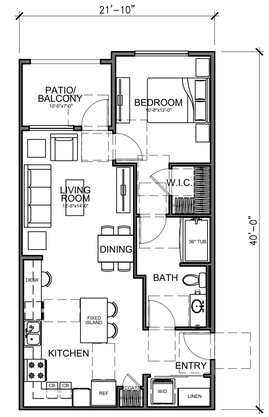
UNIT S1: STUDIO
LIVABLE AREA: 594 SQ. FT.
PATIO AREA: 81 SQ. FT.
QUANTITY: 12

UNIT A5: 1BR / 1BA
LIVABLE AREA: 622 SQ. FT.
PATIO/ BALCONY AREA: 76 SQ. FT.
QUANTITY: 36

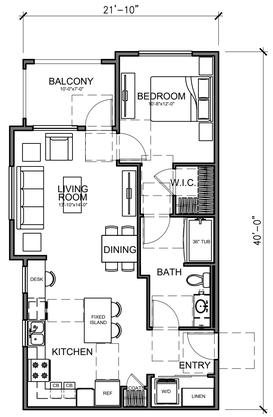


UNIT S1-ALT: STUDIO
LIVABLE AREA: 594 SQ. FT.
PATIO AREA: 81 SQ. FT.
QUANTITY: 12

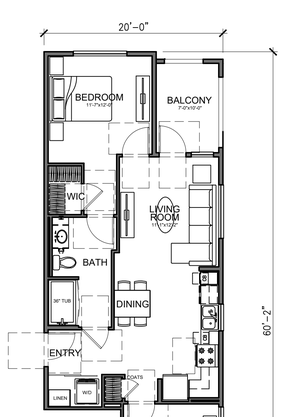
UNIT A5: 1BR / 1BA
LIVABLE AREA: 622 SQ. FT.
PATIO/ BALCONY AREA: 76 SQ. FT.
QUANTITY: 36



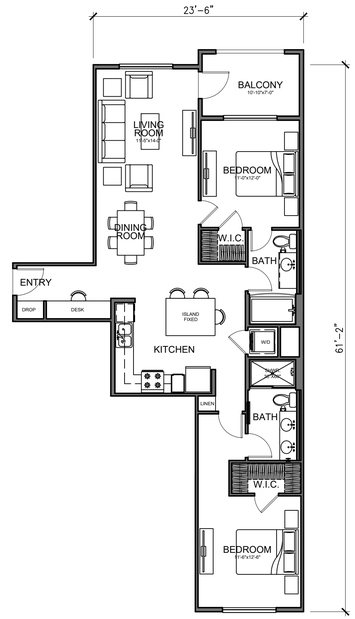
UNIT A4: 1BR / 1BA
LIVABLE AREA: 788 SQ. FT.
PATIO/ BALCONY AREA: 70 SQ. FT.
QUANTITY: 24



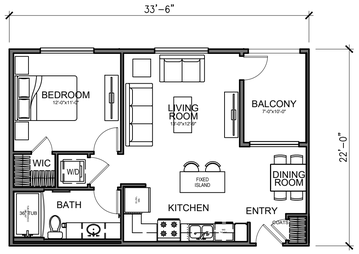
UNIT A4C: 1BR / 1BA
LIVABLE AREA: 810 SQ. FT.
PATIO/ BALCONY AREA: 70 SQ. FT.
QUANTITY: 19



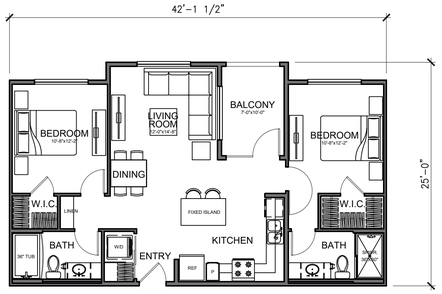
UNIT B1: 2BR / 2BA
LIVABLE AREA: 946 SQ. FT.
PATIO/ BALCONY AREA: 70 SQ. FT.
QUANTITY: 5



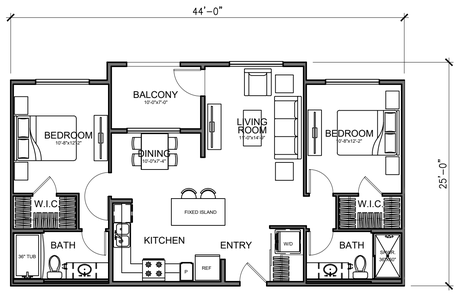
UNIT B6: 2BR / 2BA
LIVABLE AREA: 1139 SQ. FT.
BALCONY AREA: 76 SQ. FT.
QUANTITY: 24



UNIT A2: 1BR / 1BA
LIVABLE AREA: 661 SQ. FT.
BALCONY AREA: 70 SQ. FT.
QUANTITY: 2



UNIT B2B: 2BR / 2BA
LIVABLE AREA: 936 SQ. FT.
BALCONY AREA: 70 SQ. FT.
QUANTITY: 8



UNIT B2: 2BR / 2BA
LIVABLE AREA: 981 SQ. FT.
BALCONY AREA: 70 SQ. FT.
QUANTITY: 20

1/8"=1'-0" 0 4' 8' 16' 24'

CONCEPTUAL UNIT PLANS

WILDOMAR CROSSROADS

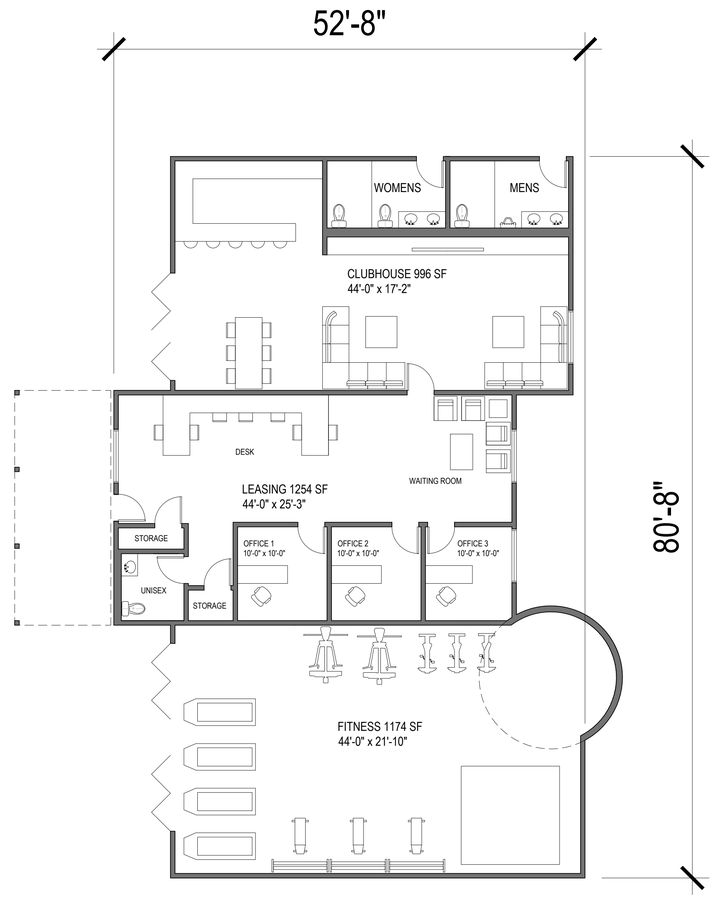
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY BUILDING
AREA: 3728 SQ. FT.

FLOOR PLAN

1/8"=1'-0" 0 4' 8' 16' 24'

CONCEPTUAL AMENITY PLAN

72

WILDOMAR CROSSROADS

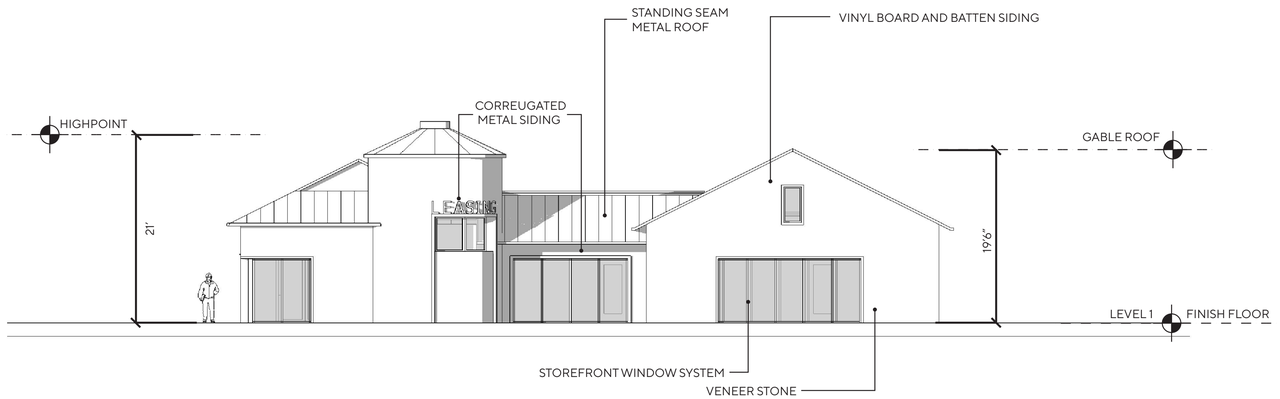
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

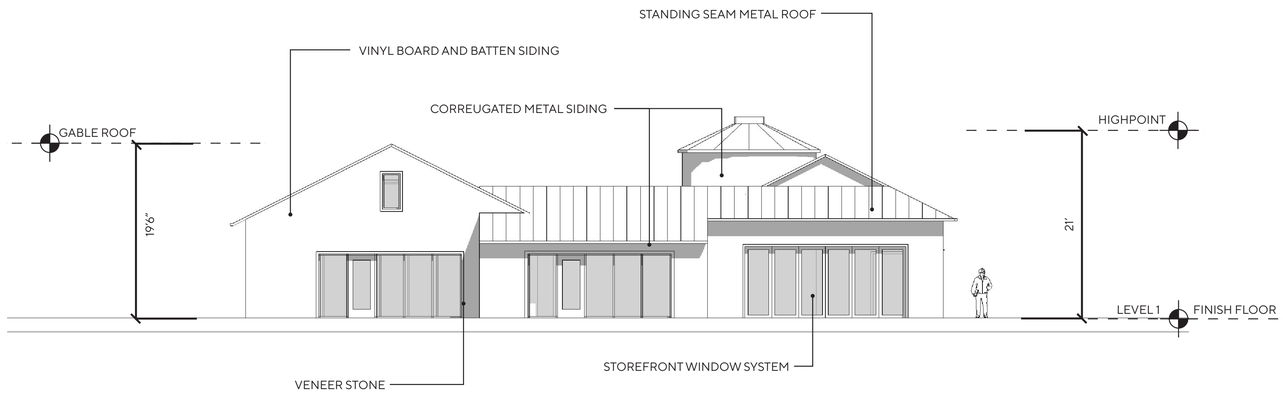
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY SOUTH



AMENTIY NORTH

WILDOMAR CROSSROADS

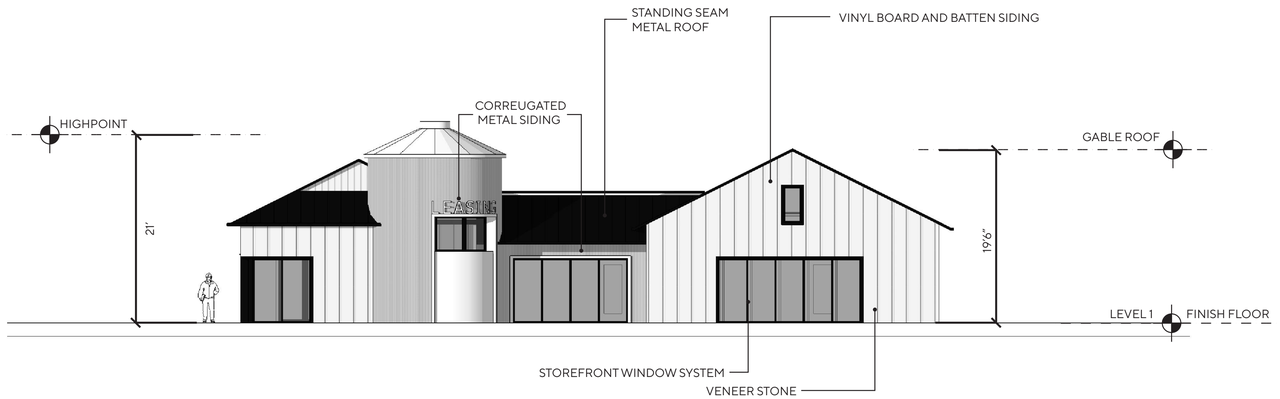
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

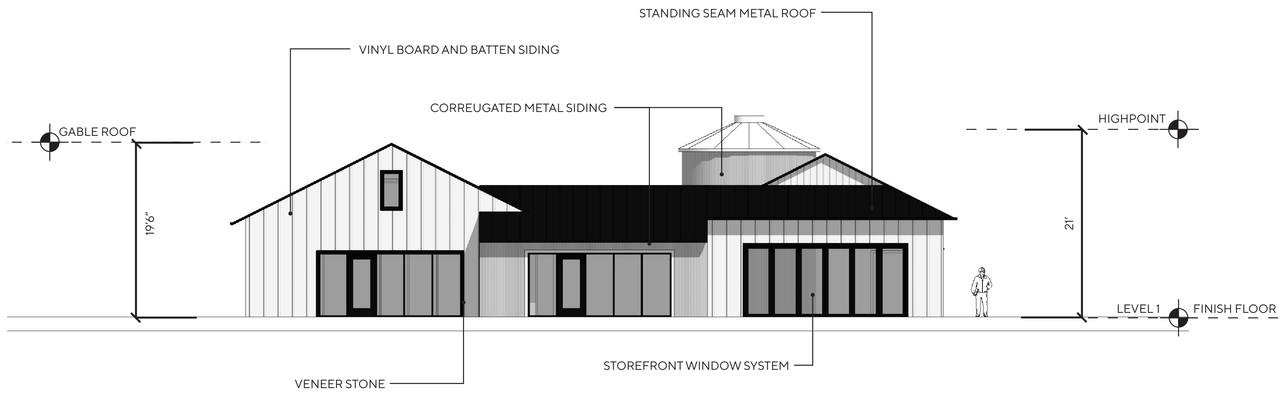
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY SOUTH



AMENTIY NORTH

WILDOMAR CROSSROADS

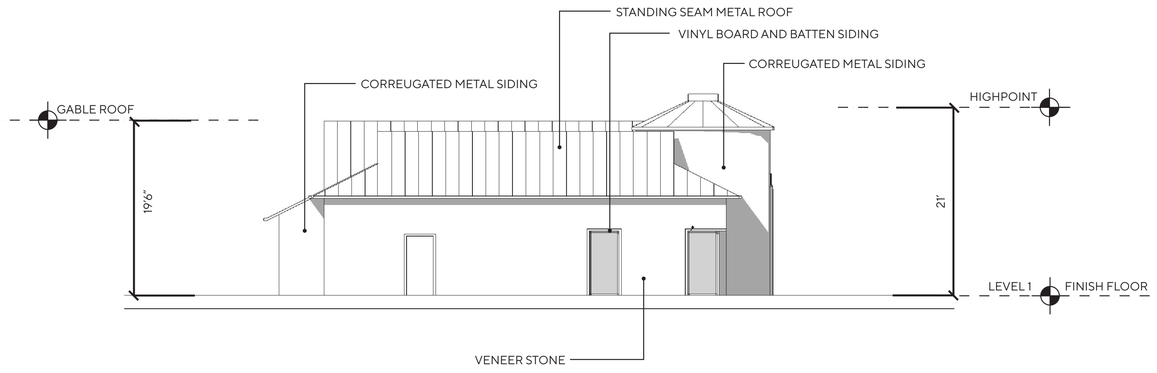
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

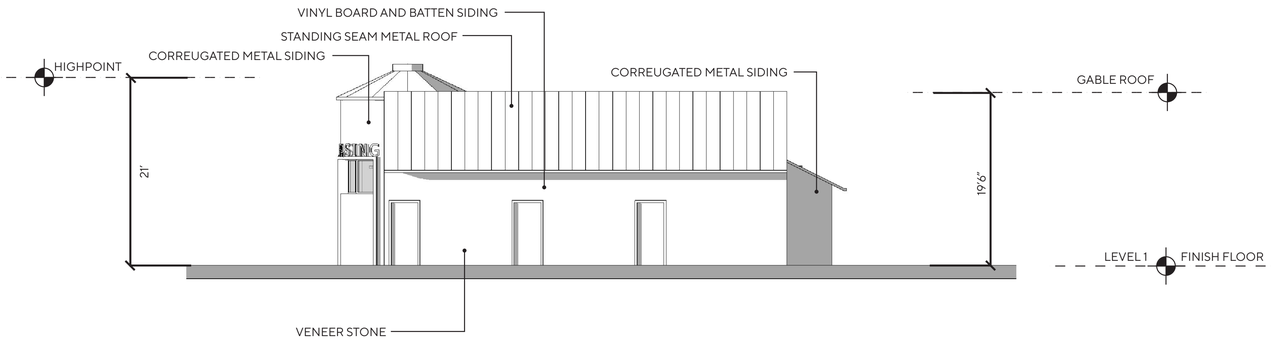
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY EAST



AMENTIY WEST

WILDOMAR CROSSROADS

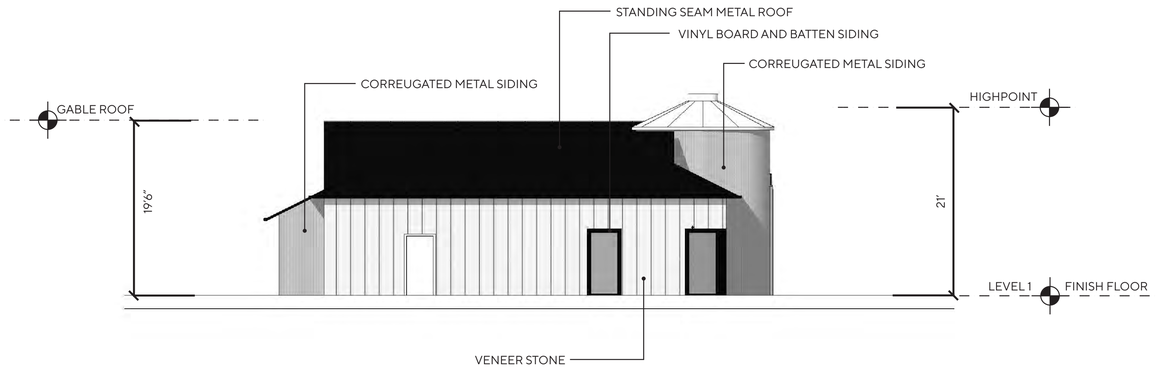
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

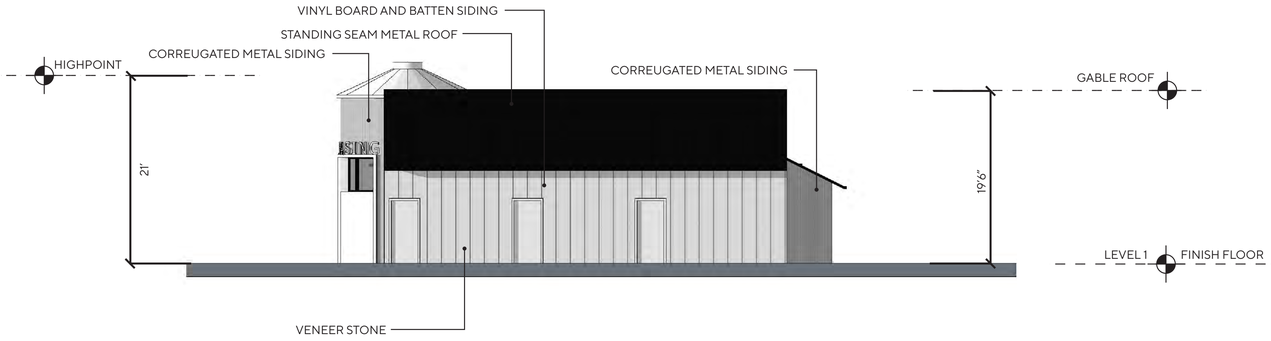
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY EAST



AMENTIY WEST

WILDOMAR CROSSROADS

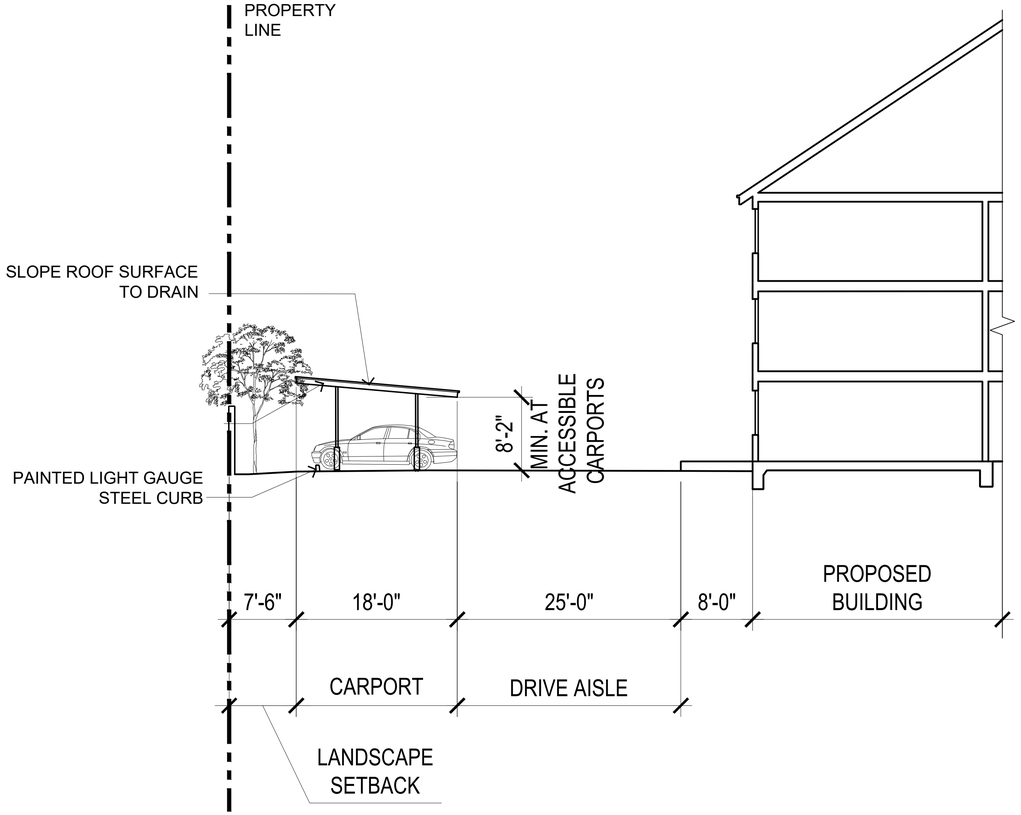
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

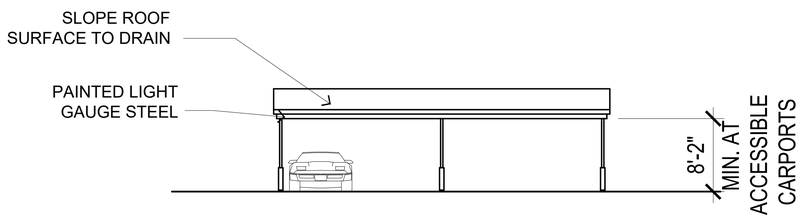
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

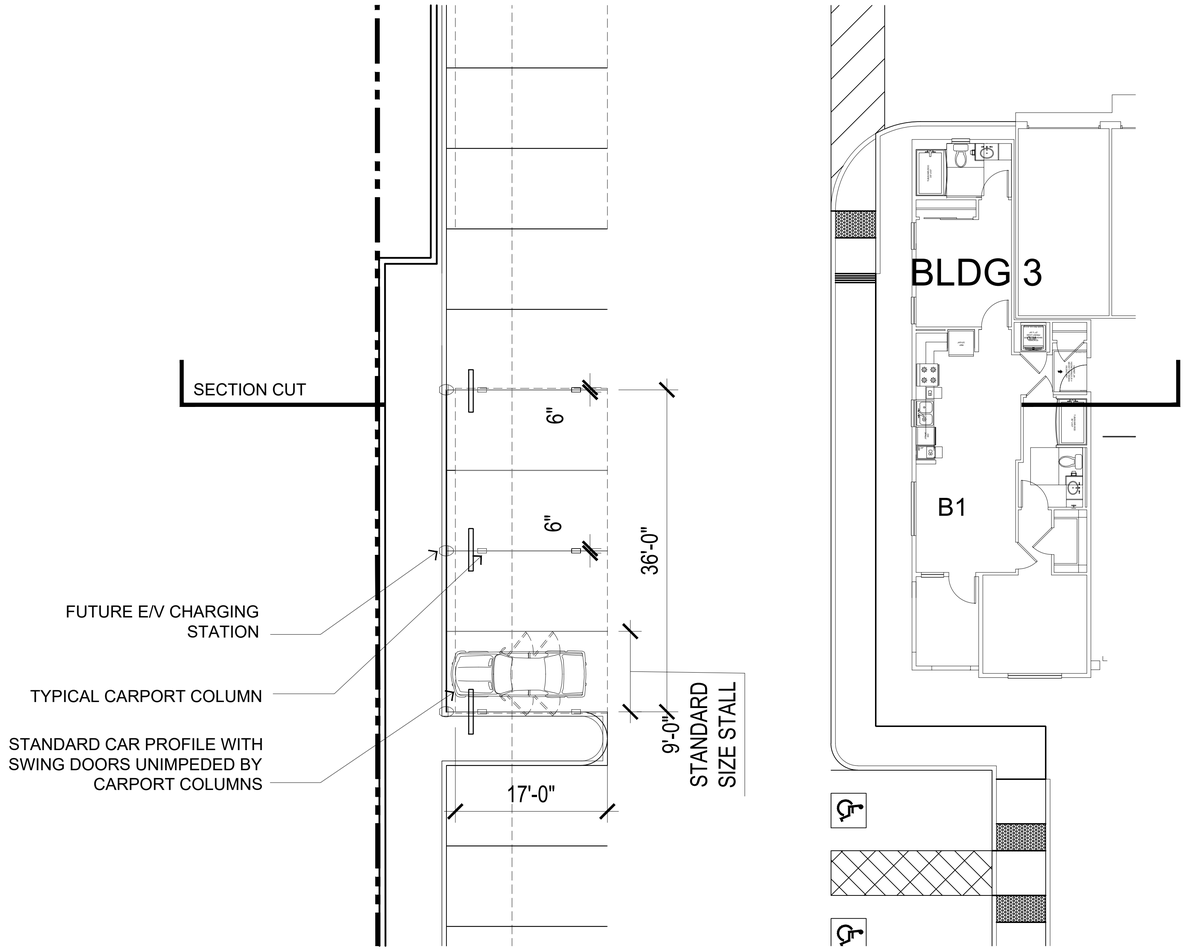
Architecture.
Design.
Relationships.



SECTION



FRONT ELEVATION



PLAN VIEW

1/8"=1'-0" (0, 4', 8', 16', 24')

PARKING SECTION

77

WILDOMAR CROSSROADS

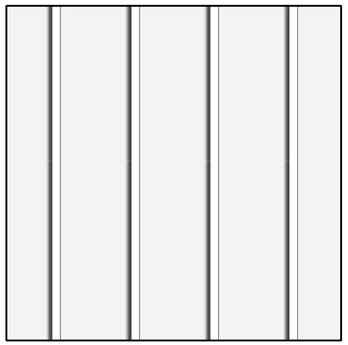
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.



SD01
BOARD AND BATTEN
CEMENTITIOUS SIDING
FINISH: LIGHT SAND FINISH
COLOR: BENJAMIN MOORE
872 WHITE CHRISTMAS



WD01
PAINTED WOOD TRIM
872 WHITE CHRISTMAS



01
BENJAMIN MOORE
2133-10 ONYX

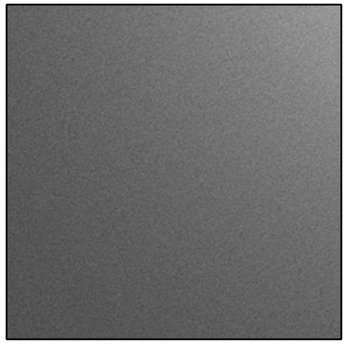
02
BENJAMIN MOORE
872 WHITE CHRISTMAS



ALUMINUM STORE
FRONT SYSTEM
CLEAR ANODIZED



RF01
ASPHALT COMPOSITION
ROOF SHINGLES



MT01
PAINTED METAL CANOPY



W01
VINYL 'NAIL ON' WINDOWS
COLOR: OFF WHITE

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

MATERIAL BOARD

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.

KEYNOTES:

SD01 - BOARD AND BATTEN CEMENTITIOUS SIDING

WD01 - PAINTED BLACK TRIM TO MATCH 01 PAINT SPEC

RF01 - ASPHALT COMPOSITION ROOF SHINGLES

MT01 - PAINTED METAL CANOPY

W01 - VINYL "NAIL ON" WINDOWS (OFF WHITE)

ST01 - STUCCO FINISH

01 - BENJAMIN MOORE 2133-10 ONYX

02 - BENJAMIN MOORE 872 WHITE CHRISTMAS



WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

RESIDENTIAL DISTRICT COLORS

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA



SHEET INDEX

OVERALL PROJECT EXHIBITS
2 COMPOSITE SITE PLAN
3 ENLARGED RESIDENTIAL DISTRICT SITE PLAN
4 ENLARGED COMMERCIAL DISTRICT SITE PLAN
5 PROJECT AREA EXHIBIT
6 EMERGENCY VEHICLE ACCESS PLAN
7 OPEN SPACE PLAN
8 ILLUSTRATIVE LANDSCAPE PLAN
9 OVERALL LANDSCAPE PLAN
10 RESIDENTIAL LANDSCAPE PLAN
11 COMMERCIAL LANDSCAPE PLAN
12 CONCEPTUAL LANDSCAPE DETAILS
13 CONCEPTUAL GRADING PLAN
14 CONCEPTUAL UTILITY PLAN
15 TENTATIVE PARCEL MAP
16 SITE LIGHTING COVER SHEET
17 SITE LIGHTING LAYOUT- PARTIAL NORTH AREA
18 SITE LIGHTING LAYOUT- PARTIAL SOUTH AREA
19 SITE PHOTOMETRICS- PARTIAL NORTH AREA
20 SITE PHOTOMETRICS- PARTIAL SOUTH AREA
21 SITE LIGHTING FIXTURE CUT SHEETS
22 SITE LIGHTING FIXTURE CUT SHEETS
23 SITE LIGHTING FIXTURE CUT SHEETS

COMMERCIAL DISTRICT EXHIBITS
24 MAJOR A FLOOR PLAN
25 MAJOR A ROOF PLAN
26 MAJOR A EXTERIOR ELEVATIONS (B&W)
27 MAJOR A SOUTH (FRONT) ELEVATION (COLOR)
28 MAJOR A WEST & EAST ELEVATIONS (COLOR)
29 MAJOR A NORTH (REAR) ELEVATION (COLOR)
30 SHOPS FLOOR PLAN
31 SHOPS ROOF PLAN
32 SHOPS SOUTH & EAST EXTERIOR ELEVATIONS (B&W)
33 SHOPS SOUTH & EAST EXTERIOR ELEVATIONS (COLOR)
34 SHOPS NORTH EXTERIOR ELEVATIONS (B&W)
35 SHOPS NORTH EXTERIOR ELEVATIONS (COLOR)
36 PAD 1 FLOOR PLAN
37 PAD 1 ROOF PLAN
38 PAD 1 SOUTH & EAST EXTERIOR ELEVATIONS (B&W)
39 PAD 1 SOUTH & EAST EXTERIOR ELEVATIONS (COLOR)
40 PAD 1 NORTH & WEST EXTERIOR ELEVATIONS (B&W)
41 PAD 1 NORTH & WEST EXTERIOR ELEVATIONS (COLOR)
42 PAD 2 FLOOR PLAN
43 PAD 2 ROOF PLAN
44 PAD 2 SOUTH & EAST EXTERIOR ELEVATIONS (B&W)
45 PAD 2 SOUTH & EAST EXTERIOR ELEVATIONS (COLOR)
46 PAD 2 NORTH & WEST EXTERIOR ELEVATIONS (B&W)
47 PAD 2 NORTH & WEST EXTERIOR ELEVATIONS (COLOR)
48 COMMERCIAL DISTRICT COLORS & MATERIALS BOARD

RESIDENTIAL DISTRICT EXHIBITS
49 BUILDING 1, 2 COMPOSITE PLAN- LEVEL 1-3
50 BUILDING 3 COMPOSITE PLAN- LEVEL 1-3 & ROOF
51 BUILDING 4 COMPOSITE PLAN- LEVEL 1-3
52 BUILDING 5 COMPOSITE PLAN- LEVEL 1-3
53 BUILDING 1 EXTERIOR ELEVATIONS (B&W)
54 BUILDING 1 EXTERIOR ELEVATIONS (COLOR)
55 BUILDING 1 EXTERIOR ELEVATIONS (B&W)
56 BUILDING 1 EXTERIOR ELEVATIONS (COLOR)
57 BUILDING 2 EXTERIOR ELEVATIONS (B&W)
58 BUILDING 2 EXTERIOR ELEVATIONS (COLOR)
59 BUILDING 2 EXTERIOR ELEVATIONS (B&W)
60 BUILDING 2 EXTERIOR ELEVATIONS (COLOR)
61 BUILDING 3 EXTERIOR ELEVATIONS (B&W)
62 BUILDING 3 EXTERIOR ELEVATIONS (COLOR)
63 BUILDING 3 EXTERIOR ELEVATIONS (B&W)
64 BUILDING 3 EXTERIOR ELEVATIONS (COLOR)
65 BUILDING 4 EXTERIOR ELEVATIONS (B&W)
66 BUILDING 4 EXTERIOR ELEVATIONS (COLOR)
67 BUILDING 4 EXTERIOR ELEVATIONS (B&W)
68 BUILDING 4 EXTERIOR ELEVATIONS (COLOR)
69 BUILDING 5 EXTERIOR ELEVATIONS (B&W)
70 BUILDING 5 EXTERIOR ELEVATIONS (COLOR)
71 BUILDING 5 EXTERIOR ELEVATIONS (B&W)
72 BUILDING 5 EXTERIOR ELEVATIONS (COLOR)
73 CONCEPTUAL PERSPECTIVE
74 CONCEPTUAL UNIT PLANS
75 CONCEPTUAL AMENITY PLAN
76 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (B&W)
77 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (COLOR)
78 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (B&W)
79 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (COLOR)
80 CONCEPTUAL PARKING SECTION
81 RESIDENTIAL DISTRICT COLORS & MATERIALS BOARD
82 RESIDENTIAL DISTRICT COLORS & MATERIALS BOARD

DESIGN TEAM

COMMERCIAL DEVELOPER:
SAGE INVESTCO, LLC
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

RESIDENTIAL DEVELOPER:
INTRACORP
895 DOVE STREET
NEWPORT BEACH, CA 92660
949.757.8461

COMMERCIAL ARCHITECT:
GK PIERCE ARCHITECTS, INC.
3 OVERTURE
ALISO VIEJO, CA 92656
949.344.2709

RESIDENTIAL ARCHITECT:
ARCHITECTS ORANGE, INC.
144 N. ORANGE STREET
ORANGE, CA 92866
714.639.9860

LANDSCAPE ARCHITECT:
URBAN ARENA, INC.
11300 SORRENTO VALLEY ROAD
SAN DIEGO, CA 92121
858.625.0112

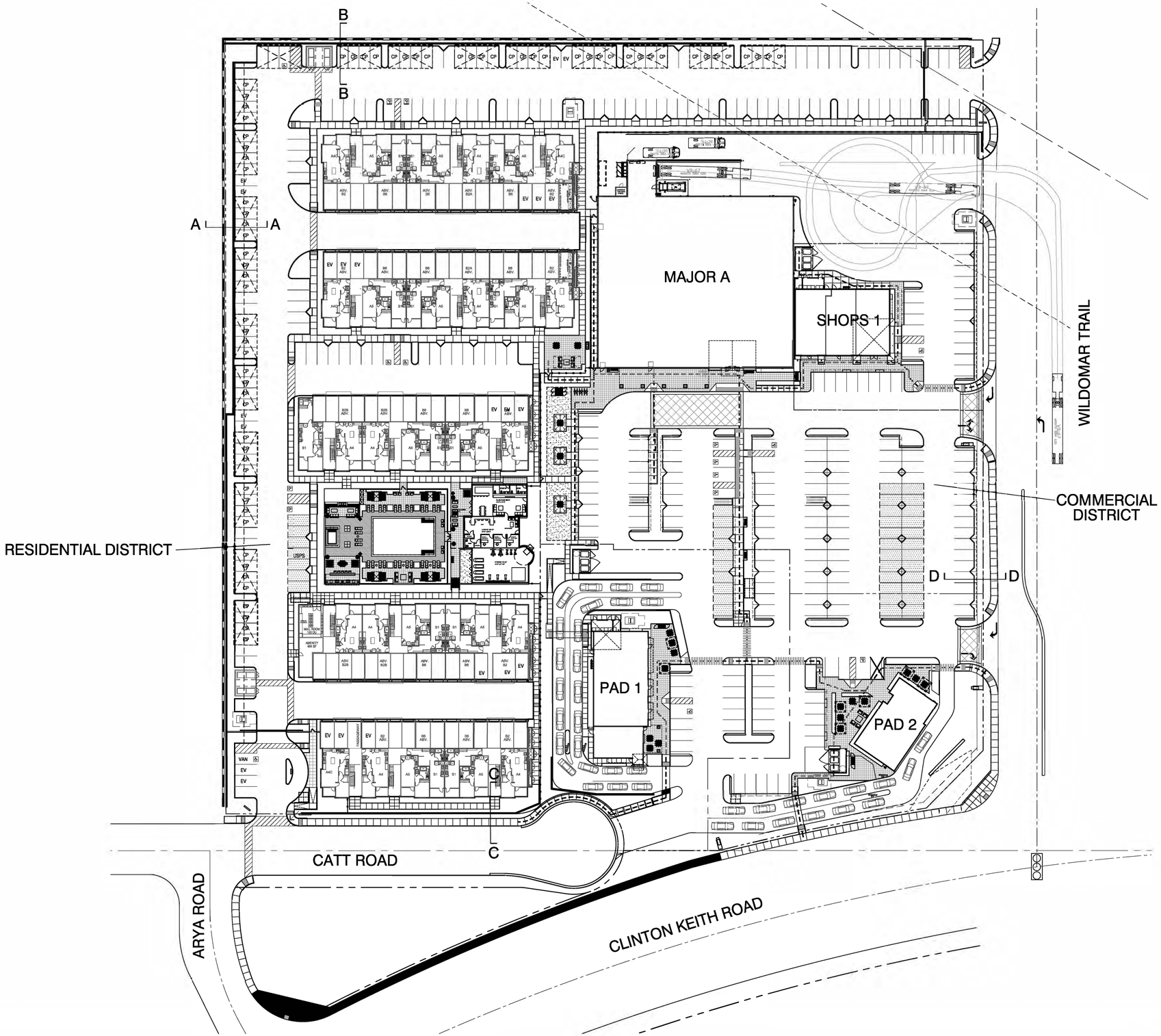
CIVIL ENGINEER:
DRC ENGINEERING, INC.
6840 INDIANA AVENUE, SUITE 215
RIVERSIDE, CA 92506
714.685.6860

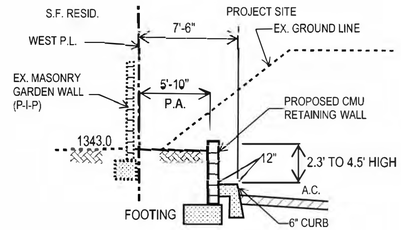
INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.757.8461

KASSEN KLEIN
Real Estate Development Entitlement Consulting
(951) 733-7665
kassen@kassenklein.com
P.O. Box 747, Murrieta, CA 92564

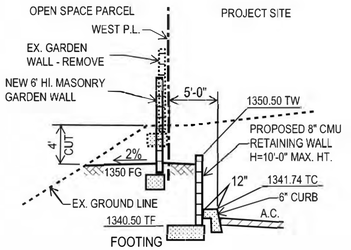
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

JUNE 23, 2022

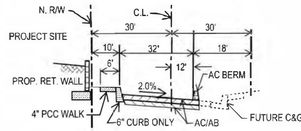




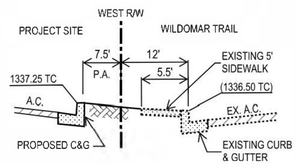
SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

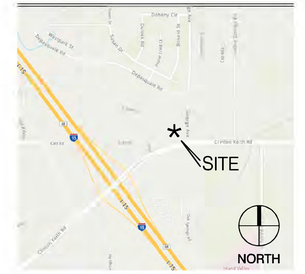


SECTION C-C CATT ROAD
LOOKING EAST
N.T.S.



SECTION D-D
N.T.S.

VICINITY



LEGAL

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-015 & -021

PROPERTY OWNER:
DAMAS CLINTON KEITH, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-016 & -017

PROPERTY OWNER:
ARAM PROPERTIES, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

DEVELOPER/ AGENT (COMMERCIAL):
SAGE INVESTCO, LLC
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

DEVELOPER/ AGENT (RESIDENTIAL):
INTRACORP SW, LLC
895 DOVE STREET, SUITE 400
NEWPORT BEACH, CA 92660
949.955.2370

ZONING

GENERAL PLAN:

ZONING:	C-P-S (SCENIC HIGHWAY COMMERCIAL) MIXED USE OVERLAY ZONE
CITY COUNCIL DISTRICT:	5
BUILDING SETBACKS:	
<35' TALL:	0'
>35' TALL:	2 FOR EACH FOOT OVER 35'
LANDSCAPE SETBACKS:	
ADJACENT TO PUBLIC ROAD RIGHT-OF-WAY:	5'
ADJACENT TO RESIDENTIAL ZONE:	5'
MAXIMUM BUILDING HEIGHT:	50'
MAXIMUM BUILDING COVERAGE:	N/A

COMMERCIAL & RESIDENTIAL DISTRICT PROJECT SUMMARIES

REFER TO ENLARGED SITE PLANS FOR SUMMARIES, DETAILS AND INFORMATION FOR EACH DISTRICT

NOTE:
THIS SITE PLAN SHOWS DEVELOPERS PLAN FOR THE CONFIGURATION OF THE PROJECT AS OF THE DATE OF THE SITE PLAN, ONLY.

BUILDING AREAS AND LAND COVERAGE ARE PRELIMINARY AND SUBJECT TO ADJUSTMENT. ANY PROPOSED DEVELOPMENT IS SUBJECT TO APPROVAL OF GOVERNMENT OR OTHER AGENCIES HAVING JURISDICTION. ALL DIMENSIONS AND SITE CONDITIONS ARE SUBJECT TO VERIFICATION.

MASTER SITE PLAN SCHEME Jv11

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 20' 40' 80'
SCALE: 1" = 40.00'

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

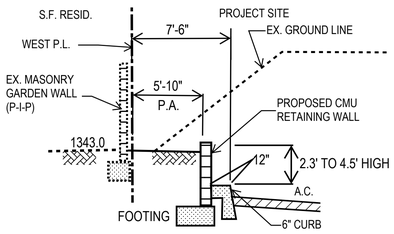
AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

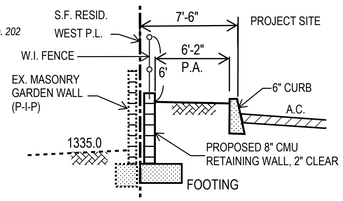
©GK PIERCE ARCHITECTS, INC. 2022

CONSTRUCTION NOTES

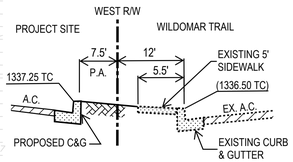
1. CONSTRUCT 3" AC/10" AB, PARKING STALLS
1A. CONSTRUCT 4" AC/14" AB, DRIVE AISLES
2. CONSTRUCT 6" PCC CURB ONLY
3. CONSTRUCT 6" PCC CURB & 18" GUTTER
4. CONSTRUCT 4" PCC SIDEWALK.
5. CONSTRUCT ACCESSIBLE CURB–CUT RAMP.
6. CONSTRUCT 3' WIDE TRUNCATED DOMES.
7. CONSTRUCT 4" MOUNTABLE CURB & GUTTER
8. INSTALL SD. DRAIN INLET GRATE AND DRAIN BOX.
9. INSTALL CATCH BASIN.
10. CONSTRUCT PCC COMMERCIAL DRIVEWAY PER CITY STD.
11. CONSTRUCT PCC RIBBON GUTTER, 3' WIDE
12. CONSTRUCT PCC ROLLED CURB, TYPE C, PER CITY STD. 202



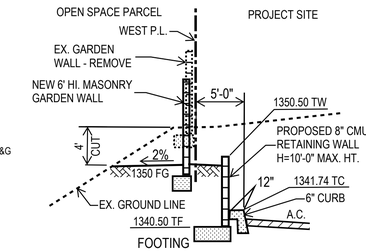
SECTION A-A
N.T.S.



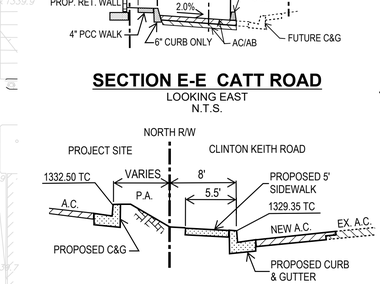
SECTION B-B
N.T.S.



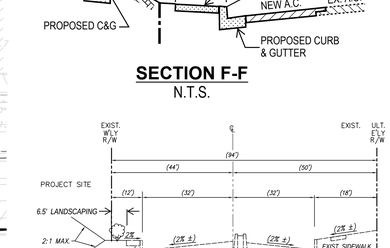
SECTION D-D
N.T.S.



SECTION C-C
N.T.S.



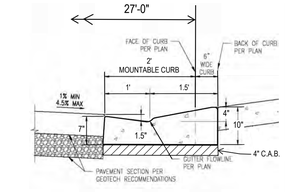
SECTION E-E CATT ROAD
LOOKING EAST
N.T.S.



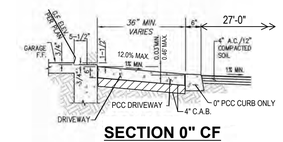
SECTION F-F
N.T.S.



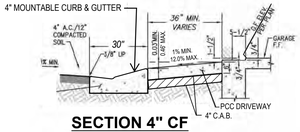
TYPICAL SECTION – WILDOMAR TRAIL
T.I.=8.5, R=34
N.T.S.



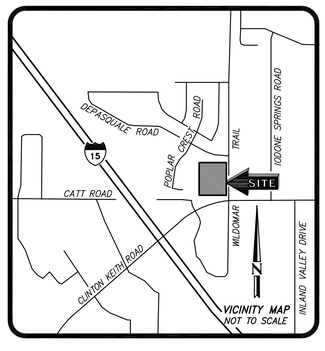
4" MOUNTABLE CURB AND GUTTER
N.T.S.



SECTION 0" CF



SECTION 4" CF



PROJECT AREA: 9.00 ACRES
TOTAL DISTURBED AREA: 10.05 ACRES

PRELIM. EARTHWORK QUANTITIES	
RAW CUT	67,340 CY
RAW FILL	22,390 CY
SOIL OVEREX.	67,160 CY
EARTH EXPORT	38,761 CY

REGISTERED PROFESSIONAL ENGINEER — RONALD W. SKLEPKO — No. C46216 Exp. 12-31-2022 — CIVIL — STATE OF CALIFORNIA

GRAPHIC SCALE: 1"=50'

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PREPARED BY: Ronald W. Sklepko — 6-23-2022
RONALD W. SKLEPKO — DATE
R.C.E. No. C46216 EXP. 12–31–2022

CONCEPTUAL GRADING PLAN
TENTATIVE PARCEL MAP NO. 38333
NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 6-23-2022
JOB #21-994

SHEET **C-1**

PROPERTY ADDRESS:
24850-23980 CATT ROAD
WILDOMAR, CA 92595

PROPERTY OWNERS:
DAMAS CLINTON KEITH, LLC
3225 McLEOD DR., SUITE 777
LAS VEGAS, NV 89121
APN: 376-420-015 & 021

ARAM PROPERTIES, LLC
3225 McLEOD DR., SUITE 777
LAS VEGAS, NV 89121
APN: 376-420-016 & 017

DEVELOPERS:
SAGE INVESTCO, LLC
4350 VON KARMAN AVE., SUITE 200
NEWPORT BEACH, CA 92660
TEL: 949-705-0426

INTRACORP SW, LLC
895 DOVE ST, SUITE 400
NEWPORT BEACH, CA 92660
TEL: 949-757-8470

FILENAME: M:\2021\21-994 Sage Investco Wildomar Retail\MA\21994 MA01.dwg, LAST SAVED ON: Apr 13 2022 9:10am PLOTTED BY: BOB, ON: Apr 13 2022 11:01am, CFS:

IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

TENTATIVE PARCEL MAP NO. 38333

BEING A SUBDIVISION OF PARCELS 1, 2, 3 AND 4 OF PARCEL MAP 8705
PER BOOK 36, PAGE 69 OF MAPS RECORDS OF RIVERSIDE COUNTY

DATE OF FIELD SURVEY
JULY, 2021

TAX PARCEL NO.
376-410-015, 376-410-016,
376-410-017, 376-410-021

TITLE INFORMATION

THE TITLE INFORMATION SHOWN HEREON IS PER PRELIMINARY REPORT FOR TITLE INSURANCE NO. OSA-6544937 DATED APRIL 28, 2021 AS PREPARED BY FIRST AMERICAN TITLE COMPANY, SANTA ANA, CA [TITLE OFFICER: RIZZA WALKER, TELEPHONE: (714) 250-3098] NO RESPONSIBILITY OF CONTENT, COMPLETENESS OR ACCURACY OF SAID COMMITMENT IS ASSUMED BY THIS MAP OR THE SURVEYOR.

RECORD OWNER

DAMAS CLINTON KEITH LLC, AS TO AN UNDIVIDED 40% INTEREST AND 24850-23980 CATT RD TRUST DATED NOVEMBER 27, 2020, LAHN VALLEY LLC A WYOMING LIMITED LIABILITY COMPANY, ITS SUCCESSOR OR SUCCESSORS IN INTEREST, AS TRUSTEE, AS TO AN UNDIVIDED 60% INTEREST AS TENANTS IN COMMON, AS TO PARCELS ONE AND TWO;

ARAM PROPERTIES, LLC., A CALIFORNIA LIMITED LIABILITY COMPANY, AS TO PARCELS THREE AND FOUR

LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL ONE:
PARCEL 4 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL TWO:
PARCEL 1 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL THREE:
PARCEL 2 OF PARCEL MAP 8705 IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN ON FILE IN BOOK 36, PAGE 69 OF PARCEL MAPS IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL FOUR:
PARCEL 3 OF PARCEL MAP NO. 8705, AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF PARCEL MAPS, RIVERSIDE COUNTY RECORDS.

TITLE EASEMENTS

THE FOLLOWING MATTERS AFFECT PARCEL ONE:

4 AN EASEMENT IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY, ITS SUCCESSORS AND ASSIGNS FOR EITHER OR BOTH POLE LINES, CONDUITS OR UNDERGROUND FACILITIES AND INCIDENTAL PURPOSES, RECORDED NOVEMBER 16, 1954 AS BOOK 1654, PAGE 530 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - SAID DOCUMENT DOES NOT PROVIDE A WIDTH - CENTERLINE PLOTTED HEREON AS [A])

5 AN EASEMENT IN FAVOR OF THE COUNTY OF RIVERSIDE, FOR PUBLIC ROAD AND DRAINAGE PURPOSES, INCLUDING PUBLIC UTILITY AND PUBLIC SERVICES PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137039 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - PLOTTED HEREON AS [B])

6 AN EASEMENT IN FAVOR OF THE COUNTY OF RIVERSIDE, FOR DRAINAGE PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137040 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - PLOTTED HEREON AS [C])

7 AN EASEMENT IN FAVOR OF COUNTY OF RIVERSIDE, FOR DRAINAGE PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137041 OF OFFICIAL RECORDS.

THE INTEREST OF THE EASEMENT HOLDER HAS SINCE BEEN TRANSFERRED TO THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT BY INSTRUMENTS RECORDED MARCH 01, 2012 AS INSTRUMENT NO. 2012-093233 AND APRIL 20, 2012 AS INSTRUMENT NO. 2012-0181346, BOTH OF OFFICIAL RECORDS.

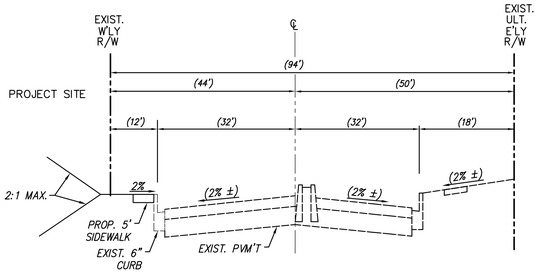
(DOCUMENTS AFFECT - PLOTTED HEREON AS [D])

BASIS OF BEARINGS

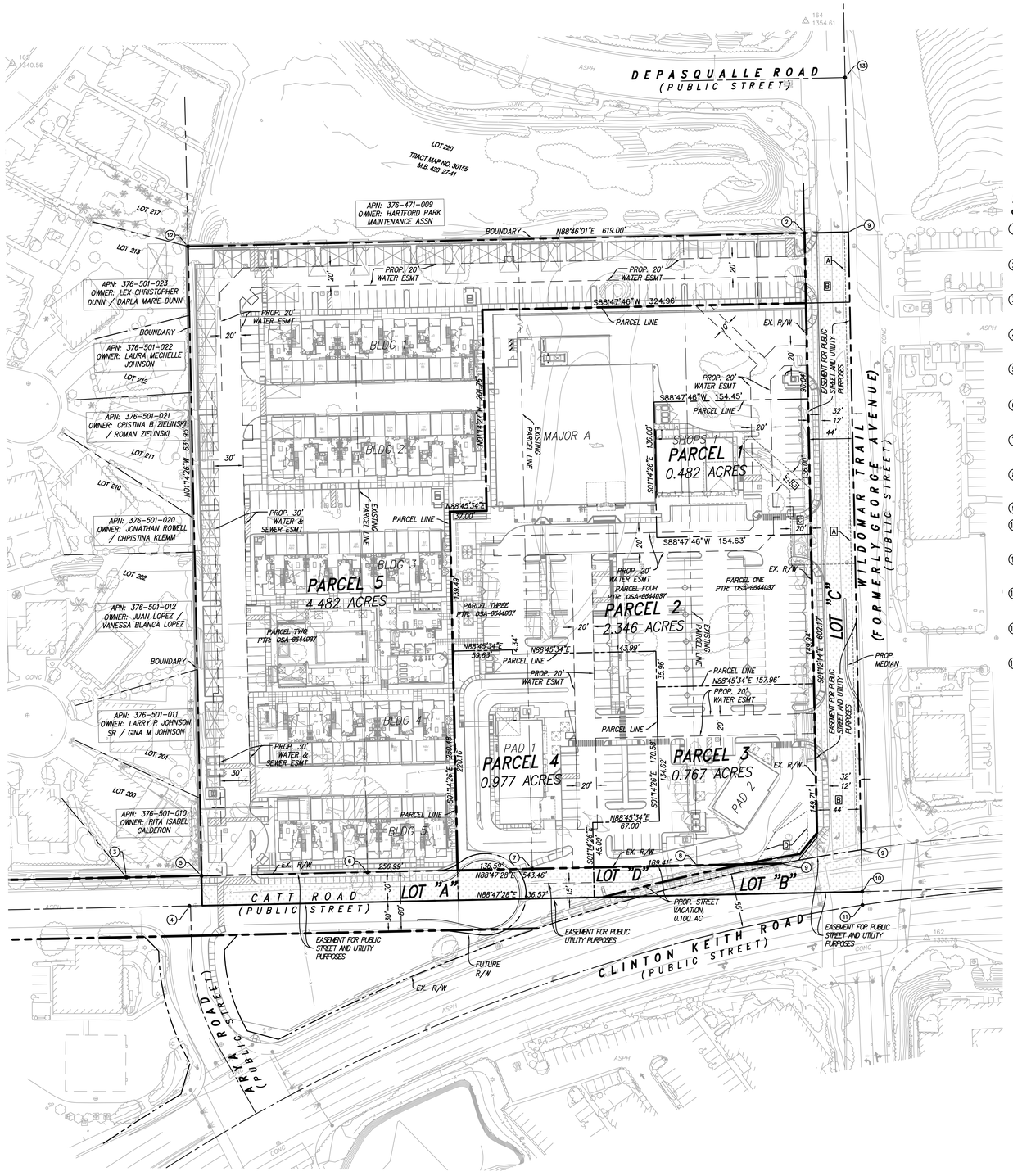
THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF CATT ROAD AS SHOWN ON PARCEL MAP NO. 8705, FILED IN PARCEL MAP BOOK 36, PAGE 69, BEING NORTH 88°47'20" EAST.

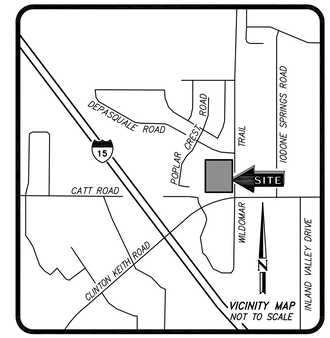
BENCH MARK

B.M. # T-59-81
3" ALUMINUM DISK IN CONC. CYLINDER. FROM THE INT. OF IVY ST. AND WASHINGTON ST., 3.6 MILES N.W. ON WASHINGTON-PALOMAR STS. TO THE INT. OF PALOMAR AND CLINTON KEITH RD., TO THE INT. OF CLINTON KEITH RD. AND GRAND AVE. IN THE N. COR. OF THE "T" INT.; 124.8' W. OF CLINTON KEITH RD.; 47.6' NO. OF GRAND AVE; 6' NE. OF A 1" I.P. W/PLASTIC PLUG LS 2606: 2' S. OF A 6' CHAIN LINK FENCE AROUND A S.C.E POWER STATION AND R.C.W.D. WELL SITE; 10' N. OF P.P. #2075052E; SET FIBERGLASS WITNESS POST 1' NORTH. ELEV. 1192.072



TYPICAL SECTION - WILDOMAR TRAIL
T.I.=8.5, R=34
N.T.S.





MONUMENT AND ESTABLISHMENT NOTES

- ● INDICATES FOUND MONUMENT AS NOTED BELOW.
- (1) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, DOWN 0.6'. ACCEPTED AS POINT ON THE CENTERLINE OF CATT ROAD.
- (2) INDICATES FOUND LEAD, TACK AND TAG STAMPED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.
- (3) INDICATES FOUND 1" IRON PIPE (WITH PLASTIC PLUG) TAGGED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.
- (4) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CATT ROAD AND ARYA DRIVE.
- (5) INDICATES FOUND 1" IRON PIPE (WITH PLASTIC PLUG) TAGGED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., DOWN 0.5'.
- (6) INDICATES FOUND 1" IRON PIPE TAGGED "L.S. 3365", PER R1, DOWN 0.4'. SAID MONUMENT IS LOCATED SOUTH 01°18'34" EAST, 0.11 FEET FROM THE SOUTH COMMON CORNER BETWEEN PARCELS 1 AND 2 OF R1.
- (7) INDICATES FOUND 1" IRON PIPE TAGGED "L.S. 3365", PER R1, DOWN 0.4'. SAID MONUMENT IS LOCATED SOUTH 01°17'00" WEST, 0.25 FEET FROM THE SOUTH COMMON CORNER BETWEEN PARCELS 2 AND 3 OF R1.
- (8) INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED THE SOUTH COMMON CORNER BETWEEN PARCELS 3 AND 4 OF R1 BY PRORATION USING R1 DATA.
- (9) INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED BY INTERSECTION.
- (10) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CATT ROAD AND GEORGE AVENUE.
- (11) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CLINTON KEITH ROAD AND GEORGE AVENUE.
- (12) INDICATES FOUND LEAD, TACK AND TAG STAMPED "LS 7910" ON TOP OF WALL, PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH WITH TOP OF WALL.
- (13) INDICATES FOUND GIN SPINDLE WITH WASHER STAMPED "LS 7910", PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.
- (14) INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED BY HOLDING RECORD DATA PER R1.

LINE LEGEND

- PROPERTY LINE
- CENTER LINE
- EASEMENT
- PARCEL LINE
- EXISTING LOT LINE/ RIGHT-OF-WAY LINE

UTILITIES

ELECTRIC: SOUTHERN CALIFORNIA EDISON COMPANY
1351 E. FRANCIS
ONTARIO, CA 91761
(800) 655-4555

WATER: ELSINORE VALLEY MUNICIPAL WATER DISTRICT
31315 CHANEY STREET
LAKE ELSINORE, CA 92531-3000
(951) 674-3146

GAS: SOUTHERN CALIFORNIA GAS COMPANY
1981 LUGONIA
REDLANDS, CA 92373
(800) 427-2200

CABLE: CHARTER COMMUNICATIONS
7337 CENTRAL AVENUE
RIVERSIDE, CA 92504
(909) 359-8989

TELEPHONE: PACIFIC BELL TELEPHONE / SBC
3939 E. CORONADO
ANAHEIM, CA 92807
(800) 750-2355

SEWER: ELSINORE VALLEY MUNICIPAL WATER DISTRICT
31315 CHANEY STREET
LAKE ELSINORE, CA 92531-3000
(951) 674-3146

ZONING / LAND USE

SCENIC HIGHWAY COMMERCIAL (C-P-S) WITH A HOUSING ELEMENT MIXED USE OVERLAY

DEVELOPER

SAGE CITRUS FONTANAN, LLC
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
TELE: 949-954-5100

ENGINEER

DRC ENGINEERING, INC.
6840 INDIANA AVENUE, SUITE 215
RIVERSIDE, CA 92506
(714) 685 - 6860 X 307

CONTACT: RONALD W. SKLEPKO, P.E.

AREA SUMMARY

PARCEL 1:	0.482 ACRES
PARCEL 2:	2.346 ACRES
PARCEL 3:	0.767 ACRES
PARCEL 4:	0.977 ACRES
PARCEL 5:	4.482 ACRES
TOTAL:	9.054 ACRES
STREET VACATION:	0.100 ACRES
NET	8.95 ACRES

LOT SUMMARY

LOT "A":	0.240 ACRES
LOT "B":	0.149 ACRES
LOT "C":	0.624 ACRES
LOT "D":	0.100 ACRES (VACATION AREA)

PROJECT AREA: 9.05 ACRES
TOTAL DISTURBED AREA: 10.05 ACRES

PRELIMINARY EARTHWORK QUANTITIES	
RAW CUT	67,340 CY
RAW FILL	22,390 CY
SOIL OVEREX.	67,160 CY
EARTHWORK EXPORT	38,761 CY

N

50' 25' 0' 50' 100'
GRAPHIC SCALE: 1 INCH = 50 FT

811 Know what's below. Call before you dig.

MARK	BY	DATE	REVISIONS	APPR.	DATE

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER RONALD W. SKLEPKO No. C46216 (Exp. 12-31-2022) CIVIL STATE OF CALIFORNIA

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PLANS PREPARED UNDER THE SUPERVISION OF:
RONALD W. SKLEPKO R.C.E. 46216 DATE

BENCH MARK:
RIVERSIDE COUNTY B.M. H-10-2 (SEE DESCRIPTION HEREON)

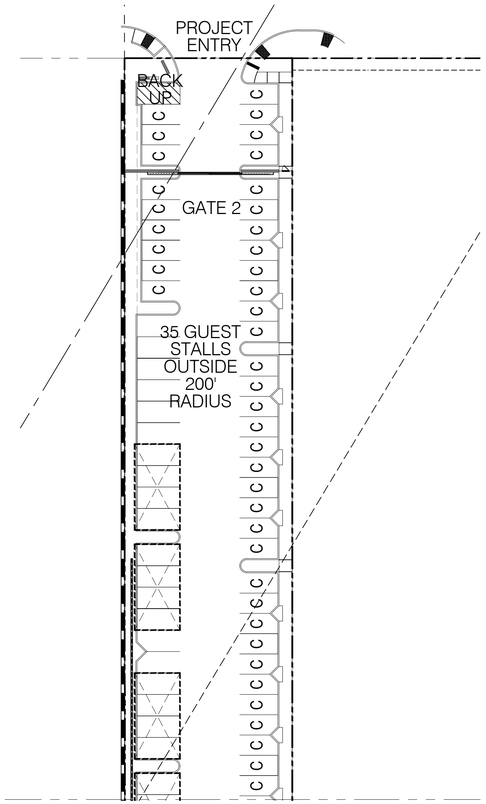
SCALE: PER PLAN

CITY OF WILDOMAR
PARCEL MAP NO. 38333
N.W. WILDOMAR TRAIL AND CLINTON KEITH ROAD
CITY OF WILDOMAR, COUNTY OF RIVERSIDE

1 OF 1 SHEETS

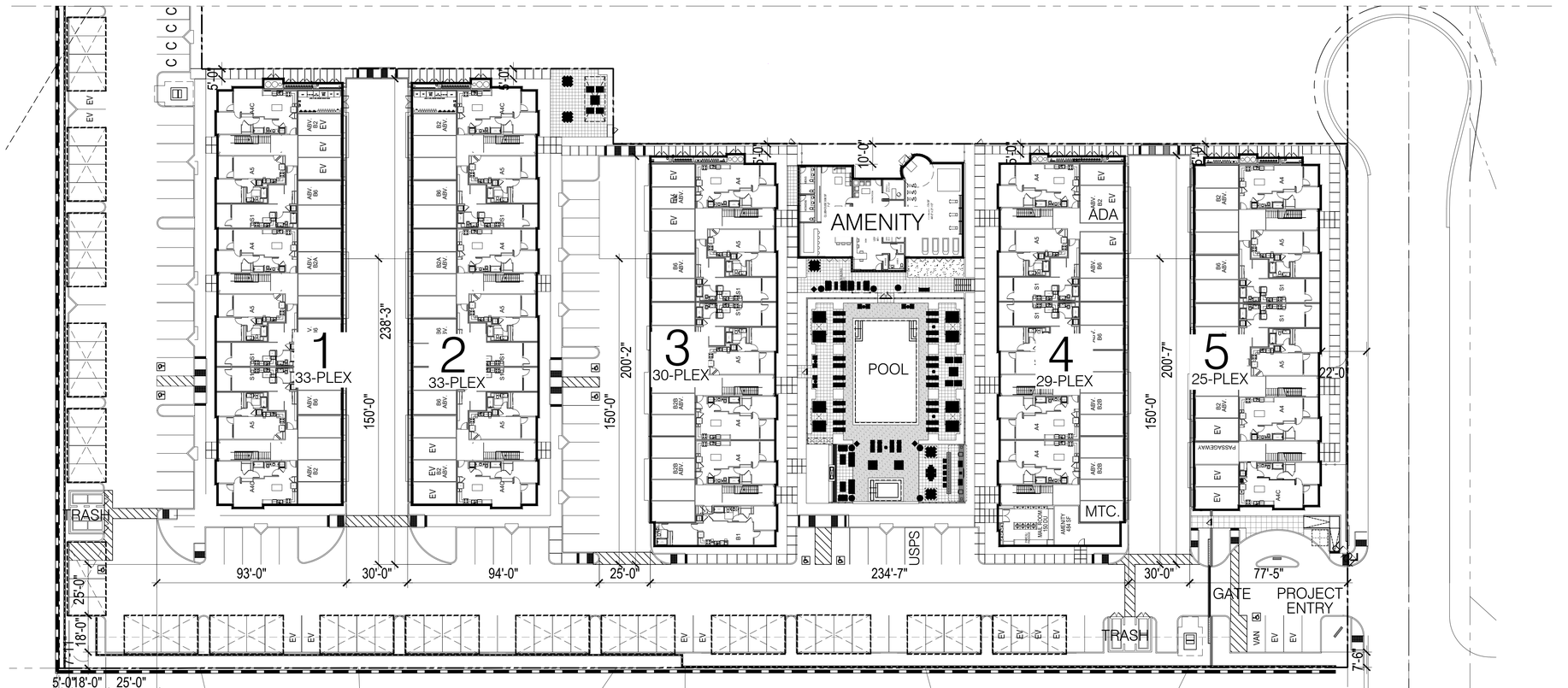
FOR: CITY OF WILDOMAR
PLAN No. _____

U:\2021\21-094 Sage Investco Wildomar Retail\TM\21-094 Wildomar Trail (portion).dwg, Apr 23, 2022 - 11:15am



SEE PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-A

SEE PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-B



PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-B

PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-A

SITE PLAN - 150 DU

PROJECT DESCRIPTION:
3-STORY, PRIVATELY FUNDED MARKET-RATE APARTMENTS (R-2 OCCUPANCY) WITH ATTACHED GARAGES (U OCCUPANCY), TYPE VA CONSTRUCTION WITH NFPA 13R AND 13 SPRINKLER SYSTEMS.

SITE AREA: 4.48 AC
UNITS: 150 DU
DENSITY: 33.5 DU/AC

Parking Required:			
Type	Count	Ratio	QTY
Studio	12	1.25	15
1 Bedroom	81	1.25	101
2 Bedroom	57	2.25	128
Guest	245	0.15	37
TOTAL STALLS REQUIRED		**(1.88 ST/ DU)**	**282**
Total Accessible Stalls Assigned(Incl. 1 Van)			2
Total Accessible Sta 1 per 6 H/C stalls			2
Total EV Stalls Required			29

Parking Provided:	
Garage Stalls	77
Garage Stalls (ADA)	1
Standard Carport Sta 1 per 6 H/C stalls	66
Open Stalls Standard	61
Open Stalls Compact	44
Accessible Stalls Car Open (Incl.1EV)	5
Accessible Stalls Car at Carport	1
Accessible Stalls Van (Incl. 1EV)	1
EV Stalls at Carport	4
EV Stalls at PrivateGarages	15
EV Stalls Open (not incl. 1 ADA Van & 1 ADA Car)	8
TOTAL STALLS PROVIDED	**283**

TOTAL UNIT SUMMARY

Unit	Unit SF	Qty.	Total *	Deck SF	Deck Total	Qty.	Percentage
S1	580	12	6,960	80	960	12	8%
A2	661	2	1,322	76	152	81	54%
A4	788	24	18,912	70	1,680		
A4C	810	19	15,390	70	1,330		
A5	630	36	22,680	76	2,736		
B1	946	5	4,730	70	350	57	38%
B2	981	20	19,620	70	1,400		
B2B	936	8	7,488	70	560		
B6	1,115	24	26,760	76	1,824		
Avg.	**826**	**150**	**123,862**	**73**	**10,992**	150	100%
* RESIDENTIAL UNIT NET AREA							

NORTH

1"=30'-0" 0 15' 30' 60' 90'

CONCEPTUAL RESIDENTIAL SITE PLAN 3

CONCEPTUAL RESIDENTIAL SITE PLAN SCHEME Hv5
NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
23 JUNE 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

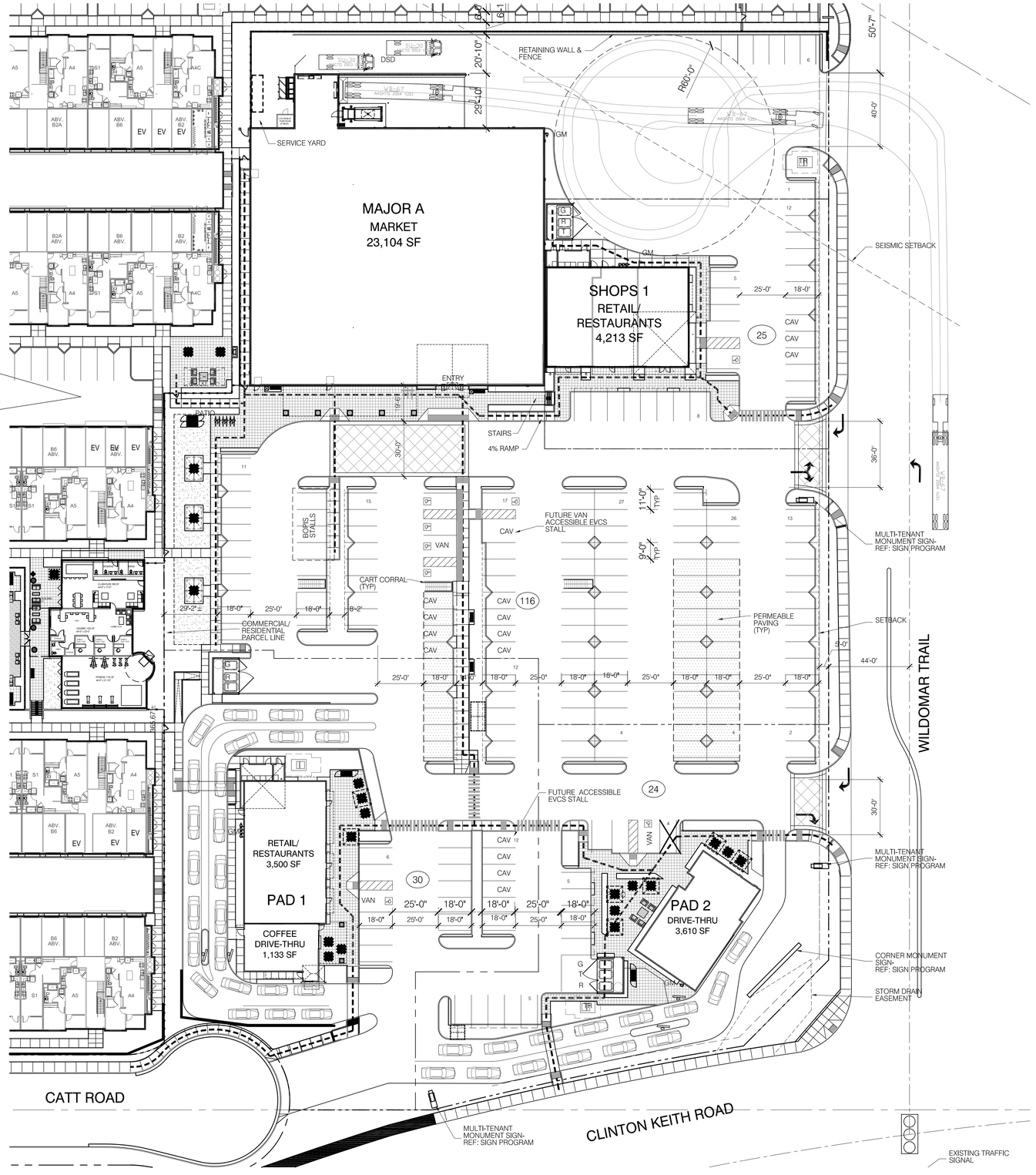
GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

REFER TO ENLARGED RESIDENTIAL DISTRICT SITE PLAN FOR ALL INFORMATION IN THE RESIDENTIAL DISTRICT



PARKING WMC 17.188.030

REQUIRED PARKING:
SHOPPING CENTERS (6/ 1,000 NET LEASABLE): 208 STALLS

TOTAL PARKING PROVIDED: 195 STALLS (5.6/ 1,000)

STANDARD PARKING SPACE DIMENSIONS: 9' X 18'
COMPACT PARKING SPACE DIMENSIONS (20% MAX): 8.5' X 16'
MINUMUM DRIVE AISLE WIDTH: 24'
DRIVE-THRU STACKING DISTANCE (PER VEHICLE): 25'
MIN STACKING IN DRIVE-THRU: 12 CARS PRIOR TO MENU BD

ACCESSIBLE PARKING

2019 CBC
TABLE 11B-208.2

TOTAL NUMBER OF PARKING SPACES PROVIDED	TOTAL NUMBER OF ACCESSIBLE SPACES
1- 25	1
26- 50	2
51- 75	3
76- 100	4
101- 150	5
151- 200	6
201- 300	7
301- 400	8
401- 500	9
501- 1,000	2 PERCENT OF TOTAL
1,001 AND OVER	20 PLUS 1/100 OVER 1,000

TOTAL PARKING PROVIDED: 195 STALLS
TOTAL ACCESSIBLE SPACES REQUIRED: 6 STALLS
VAN ACCESSIBLE REQ'D (SEC.11B-208.2.4) 2 OF TOTAL REQ'D

ACCESSIBLE SPACES PROVIDED:
STANDARD STALL: 3 STALLS
VAN ACCESSIBLE STALLS: 4 STALLS

TOTAL ACCESSIBLE SPACES PROVIDED: 7 STALLS

CLEAN AIR VEHICLE PARKING

2019 CAL GREEN
TABLE 5.106.5.2

TOTAL NUMBER OF PARKING SPACES	TOTAL NUMBER OF PARKING SPACES
0- 9	0
10- 25	1
26- 50	3
51- 75	6
76- 100	8
101- 150	11
151- 200	16
201 AND OVER	8 PERCENT OF TOTAL

TOTAL PARKING PROVIDED: 195 STALLS
TOTAL CAV PARKING REQUIRED: 16 STALLS
TOTAL CAV PARKING PROVIDED: **16 STALLS

**(CALGREEN 5.106.5.3.5: FUTURE EVCS SPACES QUALIFY AS DESIGNATED PARKING FOR CLEAN AIR VEHICLES)

FUTURE ELECTRICAL VEHICLE CHARGING STATIONS

2019 CAL GREEN
TABLE 5.106.5.3.3

TOTAL NUMBER OF PARKING SPACES	TOTAL NUMBER OF EVCS SPACES
0- 9	0
10- 25	1
26- 50	2
51- 75	4
76- 100	5
101- 150	7
151- 200	10
201 AND OVER	6 PERCENT OF TOTAL

2019 CBC
TABLE 11B-228.3.2.1

TOTAL NUMBER OF EVCS AT A FACILITY	VAN ACCESSIBLE	STANDARD ACCESSIBLE	AMBULATORY
1- 4	1	0	0
5-25	1	1	0
26- 50	1	1	1
51- 75	1	2	2
76- 100	1	3	3
101 AND OVER	1 + 1/300 OVER 100	3 + 1/60 OVER 100	1 + 1/50 OVER 100

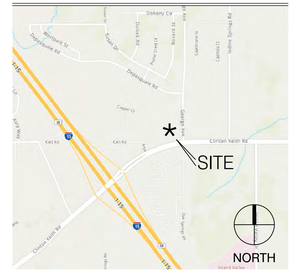
TOTAL PARKING PROVIDED: 195 STALLS
FUTURE EVCS SPACES REQUIRED): 10 STALLS
FUTURE ACCESSIBLE SPACES REQ'D (OF TOTAL):
VAN ACCESSIBLE: 1 STALL
STANDARD ACCESSIBLE: 1 STALL
AMBULATORY: 0 STALLS

FUTURE EVCS SPACES PROVIDED:
FUTURE STANDARD EVCS SPACES: 14 STALLS
FUTURE VAN ACCESSIBLE EVCS: 1 STALLS
FUTURE STANDARD ACCESSIBLE EVCS: 1 STALLS
FUTURE AMBULATORY EVCS: 0 STALLS

TOTAL FUTURE EVCS SPACES PROVIDED: 16 STALLS

FUTURE EVCS NOTES:
1. ALL CLEAN AIR VEHICLE PARKING SPACES SHALL BE PROVIDED WITH INFRASTRUCTURE FOR THE ADDITION OF FUTURE ELECTRIC VEHICLE CHARGING STATIONS.
2. FUTURE ACCESSIBLE EVCS STALLS SHALL BE CONSTRUCTED TO MEET CURRENT ACCESSIBILITY STANDARDS ALONG ACCESSIBLE ROUTES OR, HAVE THE ABILITY TO BE MODIFIED WITHOUT AFFECTING REQUIRED PARKING SPACE QUANTITIES.

VICINITY



LEGAL

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-015 & -021

PROPERTY OWNER:
DAMAS CLINTON KEITH, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-016 & -017

PROPERTY OWNER:
ARAM PROPERTIES, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

DEVELOPER/ AGENT (COMMERCIAL):
SAGE INVESTCO, LLC
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

ZONING

GENERAL PLAN:

ZONING: C-P-S (SCENIC HIGHWAY COMMERCIAL)
MIXED USE OVERLAY ZONE
CITY COUNCIL DISTRICT: 5

BUILDING SETBACKS:
<35' TALL: 0'
>35' TALL: 2 FOR EACH FOOT OVER 35'
LANDSCAPE SETBACKS:
ADJACENT TO PUBLIC ROAD RIGHT-OF-WAY: 5'
ADJACENT TO RESIDENTIAL ZONE: 5'

MAXIMUM BUILDING HEIGHT: 50'

MAXIMUM BUILDING COVERAGE: N/A

COMMERCIAL PROJECT SUMMARY

LAND AREA: 4.55 AC (198,085 SF±)

RETAIL/ RESTAURANTS: 34,540 SF

BUILDING COVERAGE (F.A.R.): 17.4%

NOTE:
THIS SITE PLAN SHOWS DEVELOPERS PLAN FOR THE CONFIGURATION OF THE PROJECT AS OF THE DATE OF THE SITE PLAN, ONLY.

BUILDING AREAS AND LAND COVERAGE ARE PRELIMINARY AND SUBJECT TO ADJUSTMENT. ANY PROPOSED DEVELOPMENT IS SUBJECT TO APPROVAL OF GOVERNMENT OR OTHER AGENCIES HAVING JURISDICTION. ALL DIMENSIONS AND SITE CONDITIONS ARE SUBJECT TO VERIFICATION.

COMMERCIAL DISTRICT SITE PLAN SCHEME Jv10

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
26 MAY 2022

0 15' 30' 60'
SCALE: 1" = 30.00'
NORTH

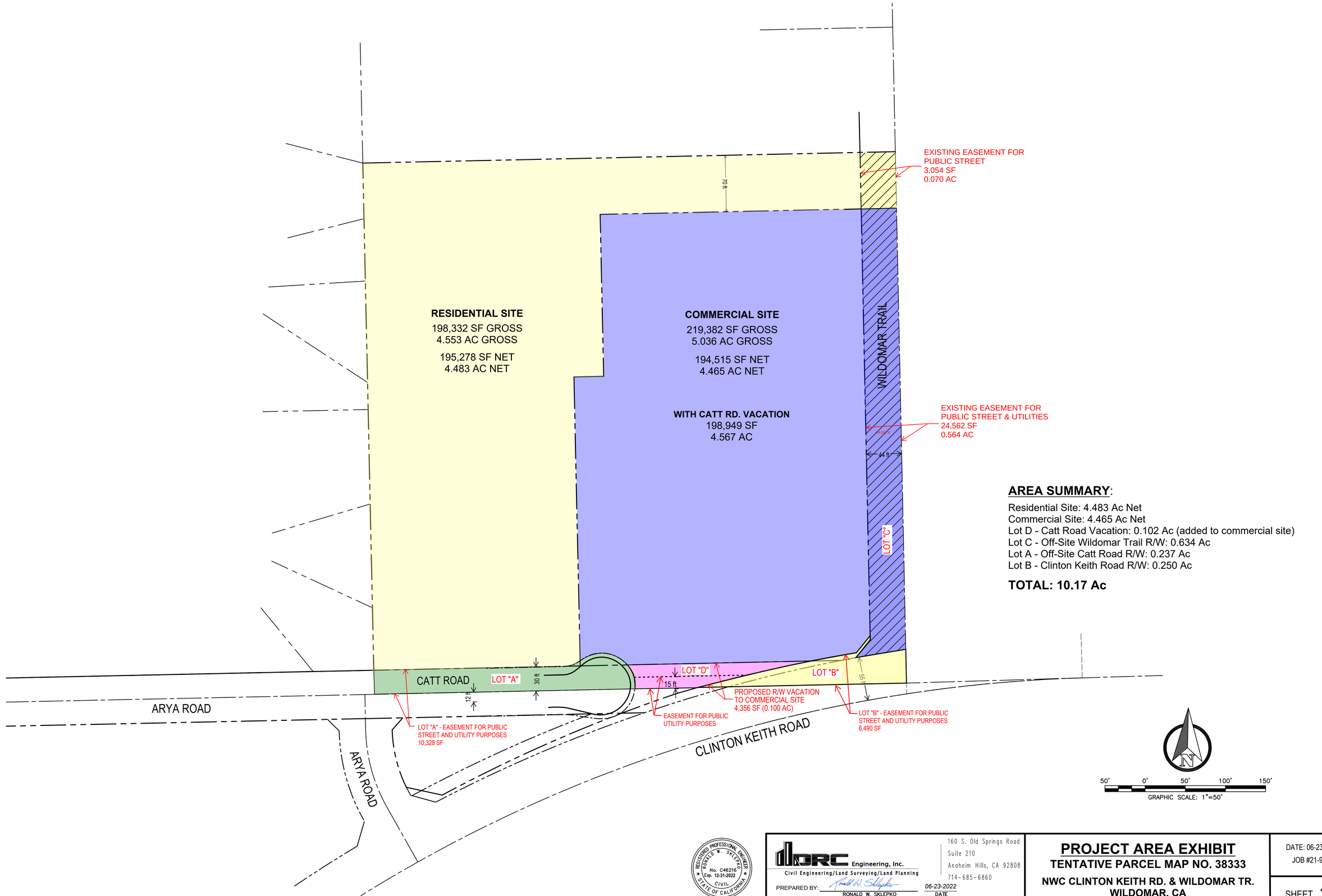
WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



AREA SUMMARY:

Residential Site: 4.483 Ac Net
Commercial Site: 4.465 Ac Net
Lot D - Catt Road Vacation: 0.102 Ac (added to commercial site)
Lot C - Off-Site Wildomar Trail R/W: 0.634 Ac
Lot A - Off-Site Catt Road R/W: 0.237 Ac
Lot B - Clinton Keith Road R/W: 0.250 Ac

TOTAL: 10.17 Ac

REGISTERED PROFESSIONAL ENGINEER
RONALD W. SKLEPKO
No. C46216
Exp. 12-31-2022
CIVIL
STATE OF CALIFORNIA

RBF Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PREPARED BY: Ronald W. Sklepko 06-23-2022
RONALD W. SKLEPKO DATE
R.C.E. No. C46216 EXP. 12-31-2022

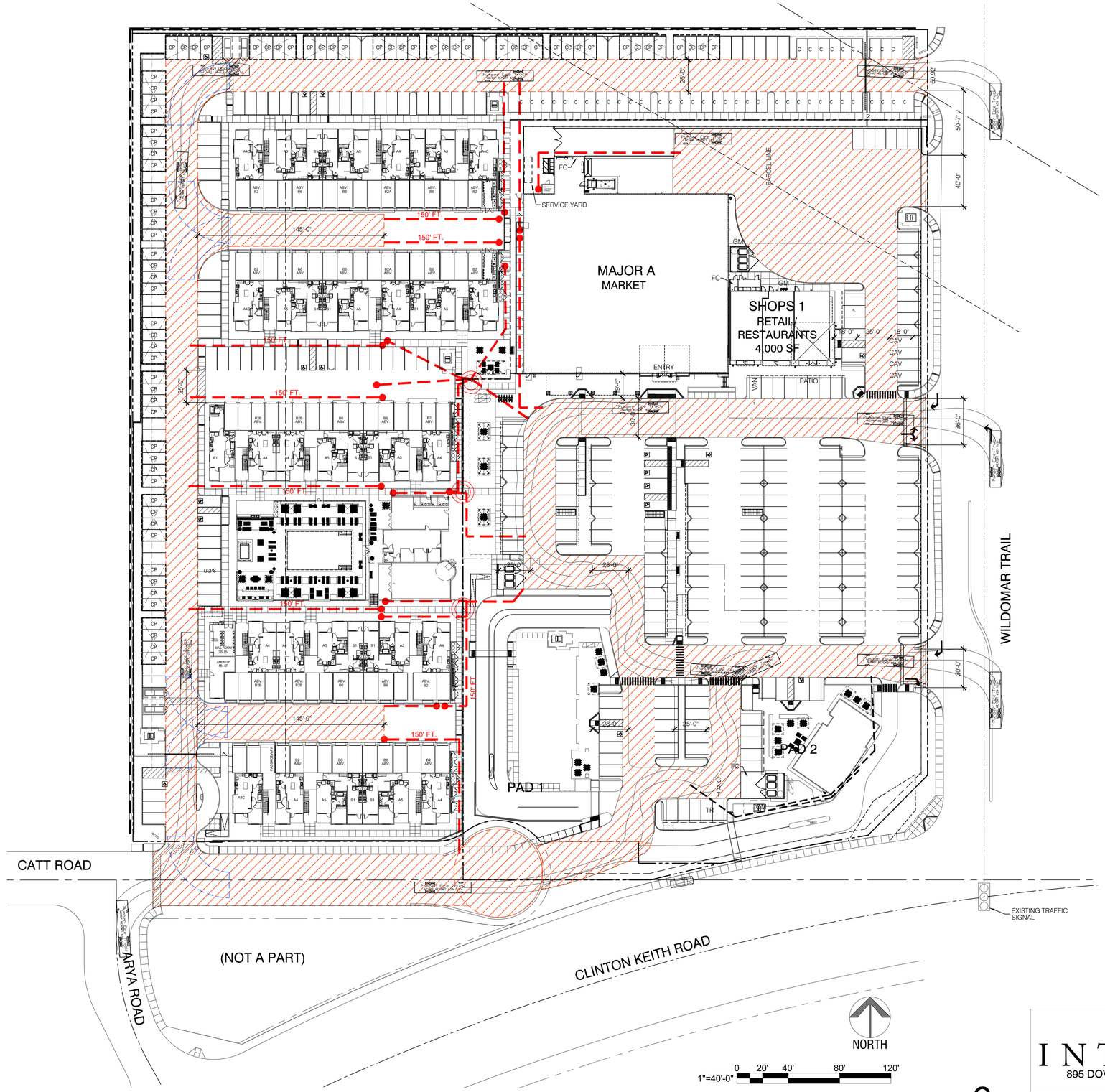
PROJECT AREA EXHIBIT

TENTATIVE PARCEL MAP NO. 38333

NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 06-23-2022
JOB #21-994

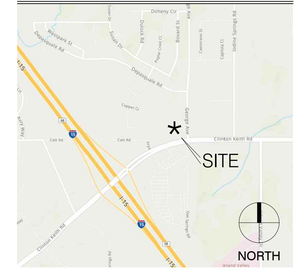
SHEET 1



EMERGENCY ACCESS SITE PLAN

6

VICINITY



LEGEND & SYMBOLS

DDC	DOUBLE DETECTOR CHECK VALVE- REF: CIVIL DRAWINGS
FDC	FIRE DEPARTMENT CONNECTION- REF: CIVIL DRAWINGS
FC	FIRE CONTROL/ SPRINKLER RISER
FH	FIRE HYDRANT- REF: CIVIL DRAWINGS PROVIDE BLUE REFLECTOR @ CL DRIVEWAY PER FIRE DEPT REQUIREMENTS
G	GREEN WASTE DUMPTSER
GM	GAS METER LOCATION- REF: PLUMBING & GAS UTILITY DRAWINGS
PIV	POST INDICATOR VALVE- REF: CIVIL DRAWINGS
R	RECYCLE DUMPSTER
T	TRASH DUMPSTER
TR	TRANSFORMER

LEGEND



EMERGENCY ACCESS SITE PLAN SCHEME Hv5

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA



1"=40'-0" 0 20' 40' 80' 120'

CONCEPTUAL OPEN SPACE PLAN-RESIDENTIAL

7

OPEN SPACE PROVIDED:

PRIVATE OPEN SPACE:	10,992 SF
COMMON OPEN SPACE >20':	18,636 SF
CLUB/FITNESS:	3,728 SF
COMMON OPEN SPACE <20':	12,535 SF
SETBACK BUFFER:	12,259 SF
TOTAL PROV.	58,150 SF (388 SF/DU)

NOTES:
1. STANDARD PARKING SIZE 9'-0"X18'-0"; COMPACT PARKING SIZE 8'-6"X16'-0"
2. STANDARD GARAGE SIZE 10'X20'
3. PRIVATE OPEN SPACE: MINIMUM 7' DIMENSION
4. PARKING TO BE CONVENIENTLY DISTRIBUTED THROUGHOUT THE SITE AND WITHIN 200 FEET OF THE BUILDING/ UNIT THEY SERVE.

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

OPEN SPACE PLAN-
RESIDENTIAL
SCHEME Hv5

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

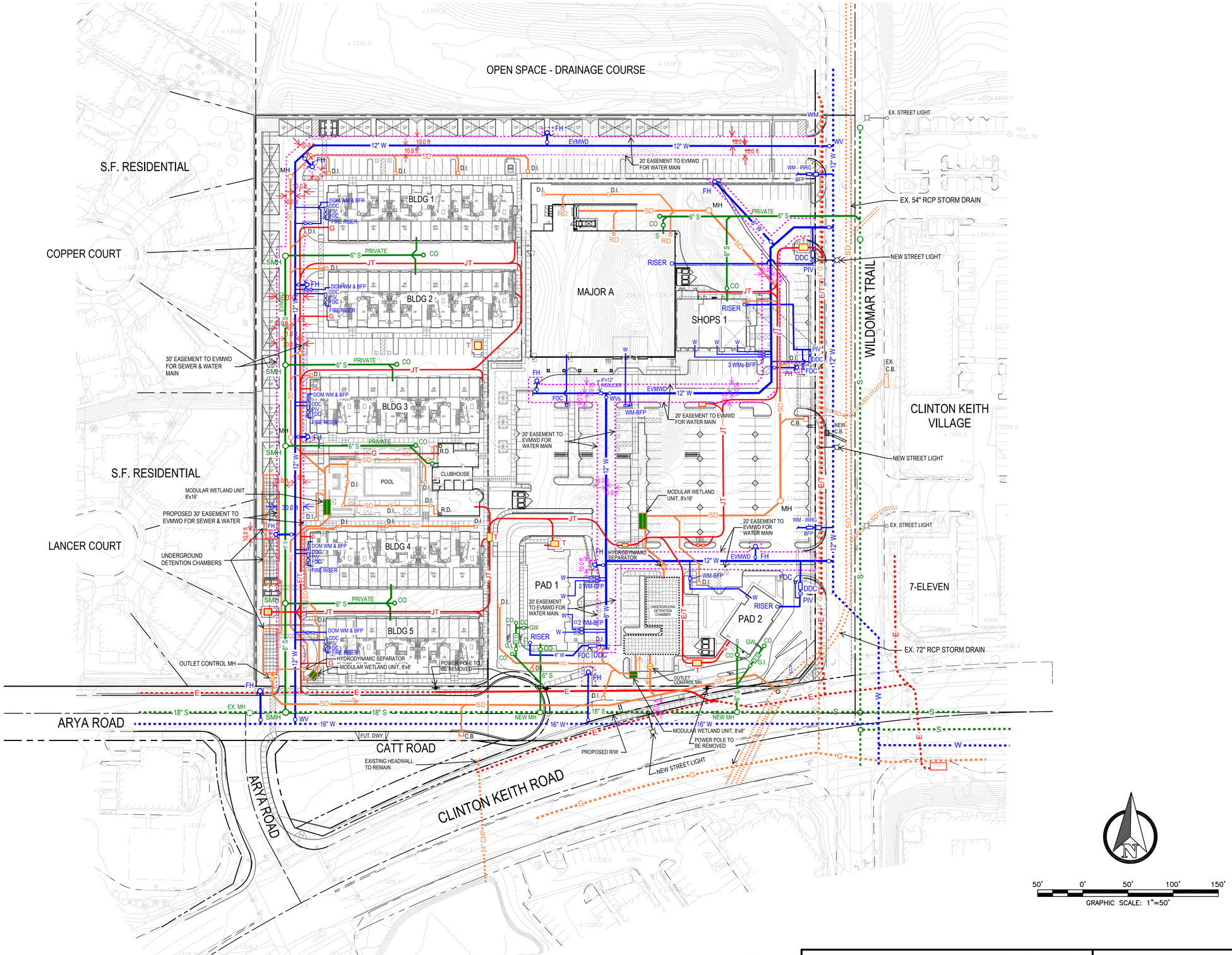
INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021



REGISTERED PROFESSIONAL ENGINEER
RONALD W. SKLEPKO
No. C46216
Exp. 12-31-2022
CIVIL
STATE OF CALIFORNIA

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning

160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PREPARED BY: Ronald W. Sklepko 6-23-2022
RONALD W. SKLEPKO DATE
R.C.E. No. C46216 EXP. 12-31-2022

CONCEPTUAL UTILITY PLAN

TENTATIVE PARCEL MAP NO. 38333

NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 6-23-2022
JOB #21-994

SHEET C-2

FILENAME: M:\2021\21-994 Sage Investco Wildomar Retail\MA\21994 MA01.dwg, LAST SAVED ON: Apr 13 2022 9:10am PLOTTED BY: BOB, ON: Apr 13 2022 11:01am, CFG:



WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=50'-0" SCALE

0 50 100

NORTH

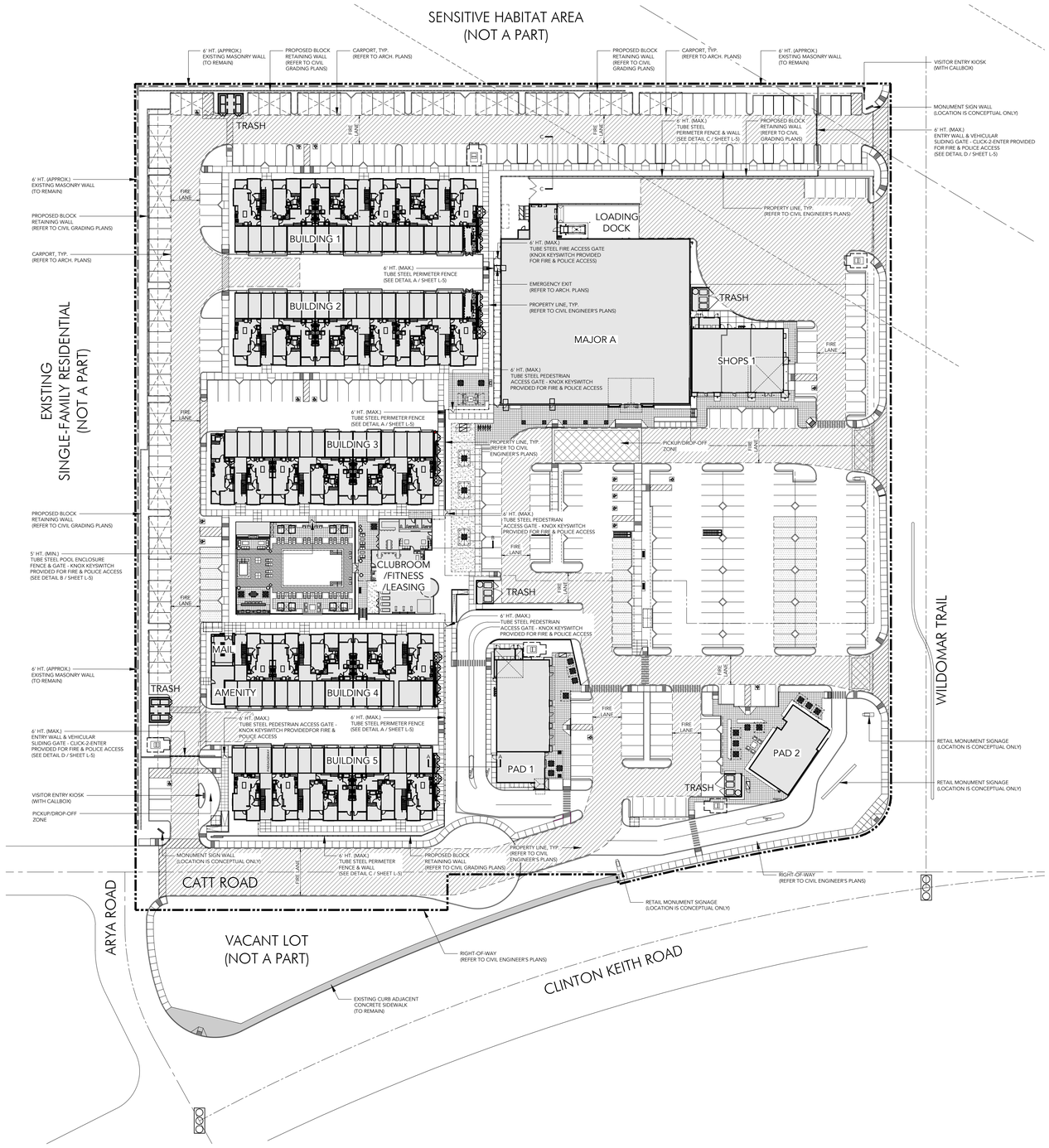
SAGE INVESTCO

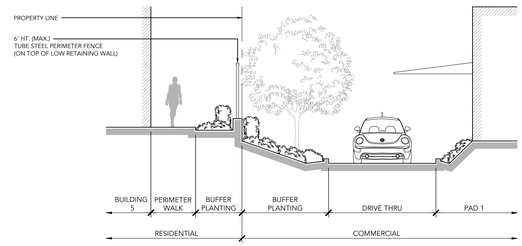
INTRACORP

Building the Extraordinary

URBAN ARENA

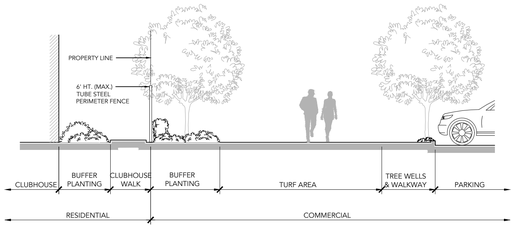
LANDSCAPE ILLUSTRATIVE PLAN | L-1





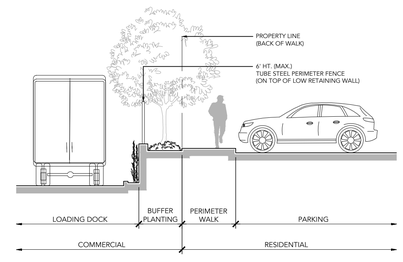
SECTION A-A

SCALE: 1/8" = 1'-0"



SECTION B-B

SCALE: 1/8" = 1'-0"



SECTION C-C

SCALE: 1/8" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=50'-0" SCALE

0 50 100

NORTH

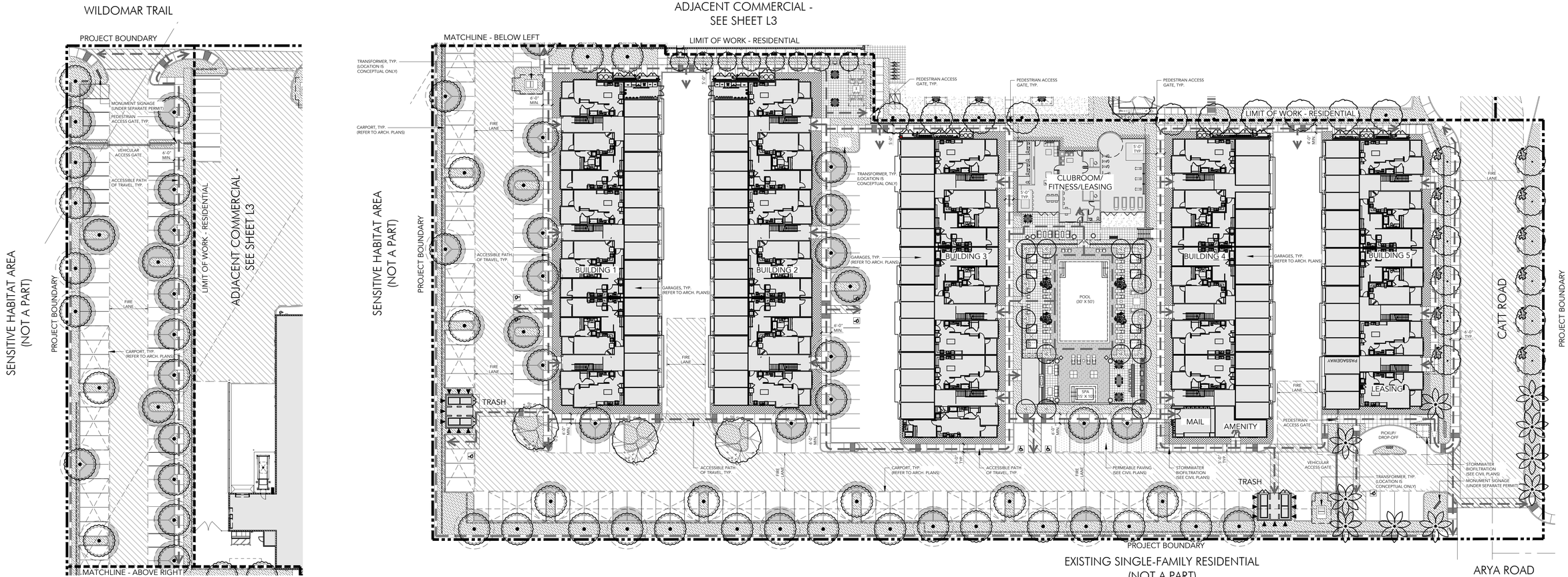
LANDSCAPE OVERALL PLAN | L-2

SAGE INVESTCO

INTRACORP

Building the Extraordinary

URBAN ARENA



LANDSCAPE NOTES

A. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, MATURE SPECIMEN TREES IN THIRTY-SIX INCH (36") AND FORTY-EIGHT INCH (48") BOX TREES SHALL BE PROVIDED FOR LARGE PROJECT IN SUFFICIENT QUANTITY TO PROVIDE VARIETY AND EMPHASIS ON MAIN FOCAL AREAS. SUBJECT TO REVIEW AND APPROVAL OF THE DIRECTOR AND LANDSCAPE CONSULTANT.

B. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT SHALL INCLUDE 3 TO 4 FOOT HIGH LANDSCAPE SCREENING ELEMENTS ALONG ENTIRE PARKING FRONTAGE AT STREETS AND DRIVE AISLES. A COMBINATION OF LANDSCAPE BERMS, GROUPS OF SCREENING SHRUBS, OR ENHANCED WALLS SHALL BE UTILIZED.

C. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL AVOID PLANTS THAT REQUIRE CUTTING BACK TO KEEP THEM WITHIN A SPECIFIC AREA OR AT A TRIMMED HEIGHT. PROVIDED SPACE FOR PLANTS TO GROW TO MATURITY AND KEEP THEIR NATURAL SHAPE.

D. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL SELECT PLANT MATERIALS WITHIN VEHICULAR LINE OF SIGHT IMPACT AREAS LIMITED TO A MAXIMUM OF 30" NATURAL HEIGHT.

E. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT WILL AVOID MONOCULTURE PLANTING, PROVIDE ADDITIONAL PLANT MATERIAL WITH VARYING CHARACTERISTICS. FINAL SHRUB LAYOUT WILL NOT APPEAR AS MASSES, NO SPOTTY PLACEMENT OF SINGULAR SHRUBS.

F. LANDSCAPE ARCHITECT RECOGNIZES THAT THIS PROJECT IS LOCATED WITHIN THE 'VERY HIGH FIRE SEVERITY ZONE' AND WILL BE SUBJECT TO REVIEW BY RIVERSIDE COUNTY OFFICE OF THE FIRE MARSHAL FOR FUEL MODIFICATION REQUIREMENTS.

G. NO COMBUSTIBLE MULCH WILL BE ALLOWED TO BE LOCATED WITHIN 5' OF ANY BUILDING STRUCTURE.

WATER USE CALCULATIONS

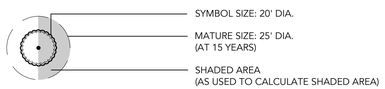
TOTAL LANDSCAPE AREA 29,086 SF

MAXIMUM APPLIED WATER ALLOWANCE (MAWA)
MAWA = (ETO) X (0.7) X (LA) X (0.62) = GALLONS PER YEAR
MAWA = 61.65 X 0.7 X 29,086 X 0.62 = 778,228 GALLONS PER YEAR

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

SHADED PARKING CALCULATIONS

OPEN PARKING	130 SPACES
COVERED PARKING	76 SPACES
TOTAL AREA OF OPEN PARKING SPACES	19,862 SF
REQUIRED PERCENTAGE OF PARKING AREA TO BE SHADED	50% (50+ SPACES)
TOTAL SHADE PROVIDED	10,603 SF
PERCENT OF OPEN PARKING SHADED	53 %



UTILITY COORDINATION

PLEASE NOTE THAT THE LOCATION OF ALL UTILITY STRUCTURES IS CONCEPTUAL ONLY AND WILL BE COORDINATED FURTHER DURING THE DESIGN DEVELOPMENT AND CONSTRUCTION DOCUMENTATION PHASE. CONCEPTUAL LIGHTING PLAN IS PROVIDED WITHIN THE DRAWING SET, REFER TO LIGHTING PLANS.

LANDSCAPE ZONES AND PLANT PALETTE

STREET TREES SUCH AS:

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
	CERCIDIUM X 'DESERT MUSEUM'	'DESERT MUSEUM' PALO VERDE	L
	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	M
	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	M
	PLATANUS X ACERIFOLIA	LONDON PLANETREE	M
	QUERCUS AGRIFOLIA	COAST LIVE OAK	L
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	M

PARKING TREES SUCH AS:

	CASSIA LEPTOPHYLLA	GOLD MEDALLION TREE	M
	CUPANIOPSIS ANACARDIOIDES	CARROT WOOD	M
	GLEDITSIA TRIACANTHOS	HONEY LOCUST	L
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	PYRUS KAWAKAMII	EVERGREEN PEAR	M
	RHUS LANCEA	AFRICAN SUMAC	L
	ULMUS PARVIFOLIA	CHINESE ELM	L

ACCENT TREES SUCH AS:

	ARBUTUS 'MARINA'	'MARINA' STRAWBERRY TREE	M
	BAUHINIA X BLAKEANA	HONG KONG ORCHID TREE	M
	GINKGO BILOBA	MAIDENHAIR TREE	M
	JACARANDA MIMOSIFOLIA	JACARANDA	M
	MAGNOLIA GRANIFLORA	SOUTHERN MAGNOLIA	M
	TABEBUIA CHRYSOTRICHA	GOLDEN TRUMPET TREE	M
	TABEBUIA IMPETIGINOSA	PINK TRUMPET TREE	M

SCREEN TREES SUCH AS:

	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	M
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	M
	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	M
	TIPUANU TIPU	TIPU TREE	M

PALM TREES SUCH AS:

	ARCHONTOPHOENIX CUNNINGHAMIANA	KING PALM	M
	BRAHEA ARMATA	MEXICAN BLUE PALM	L
	PHOENIX DACTYLIFERA	DATE PALM	L
	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	L
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	L

FOUNDATION PLANTS SUCH AS:

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
	LIGUSTRUM JAPONICUM 'TEXANUM'	WAX LEAF PRIVET	M
	PITTOSPORUM TOBIRA	MOCK ORANGE	M
	PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	M
	RHAPHIOLEPIS INDICA 'CLARA'	'CLARA' INDIAN HAWTHORN	M
	RHAPHIOLEPIS UMBELLATA 'MINOR'	YEDDO HAWTHORN	M
	XYLOSMA CONGESTA 'COMPACTA'	SHINY XYLOSMA	M

SHRUBS SUCH AS:

	ALOE X SPECIES	ALOE	L
	AGAVE X SPECIES	AGAVE	L
	ARBUTUS UNEDO 'COMPACTA'	DWARF STRAWBERRY TREE	L
	ASPARAGUS DENSIFLORUS 'MYERS'	FOXTAIL FERN	M
	BOUGAINVILLEA 'LA JOLLA'	'LA JOLLA' BOUGAINVILLEA	L
	CALLISTEMON VIMINALIS 'LITTLE JOHN'	WEEPING BOTTLEBRUSH	M
	CAREX X SPECIES	SEDGE	L
	CARISSA MACROCARPA 'TUTTLE'	'TUTTLE' DWARF NATAL PLUM	M
	CHONDROPETALUM TECTORUM 'EL CAMPO'	'EL CAMPO' SMALL CAPE RUSH	M
	CORDYLINE X SPECIES	CORDYLINE	M
	DASYLIRION SPECIES	DESERT SPOON	L
	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	M
	DIETES GRANDIFLORA	FORTNIGHT LILY	M
	JUNCUS PATENS	CALIFORNIA GRAY RUSH	L
	LEUCADENDRON X 'SAFARI SUNSHINE'	CONEBUSH	M
	LOMANDRA X SPECIES	MAT RUSH	M
	PEDILANTHUS MACROCARPUS	SLIPPER	VL
	PHILODENDRON XANADU	XANADU PHILODENDRON	M
	PHORMIUM 'DARK DELIGHT'	'DARK DELIGHT' PURPLE FLAX	M
	SANSEVIERIA TRIFASCIATA	MOTHER-IN-LAW'S TOUNGE	L
	SESLERIA X 'GREENLEE'	'GREENLEE' MOOR GRASS	M
	STRELITZIA REGINAE	BIRD OF PARADISE	M
	WESTRINGIA FRUTICOSA 'SMOKEY'	'SMOKEY' WESTRINGIA	L
	ZAMIA FURFURACEA	CARDBOARD PALM	M

GROUNDCOVERS SUCH AS:

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BRUSH	L
	CAREX PRAEGRACILIS	CALIFORNIA FIELD SEDGE	M
	CARISSA MACROCARPA 'GREEN CARPET'	'GREEN CARPET' NATAL PLUM	M
	COTONEASTER SPECIES	COTONEASTER	M
	FESTUCA GLAUCA 'ELIJAH BLUE'	'ELIJAH BLUE' FESCUE	M
	MYOPORUM PARVIFOLIUM	PROSTRATE MYOPORUM	L
	ROSA SPECIES	CARPET ROSE	M
	SENECIO SERPENS	BLUE CHALKSTICKS	L
	TRADESCANTIA PALLIDA 'PURPLE HEART'	PURPLE QUEEN SPIDERWORT	M

VINES SUCH AS:

	FICUS PUMILA	CLIMBING FIG	M
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	M

GENERAL NOTES

ALL LANDSCAPING, IRRIGATION AND RELATED IMPROVEMENTS SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF WILDOMAR, THE COUNTY OF RIVERSIDE (AS REQUIRED), RIVERSIDE COUNTY FIRE DEPARTMENT AND THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. REFERENCE THE CITY OF WILDOMAR MUNICIPAL CODE CHAPTERS 17.188 (OFF-STREET VEHICULAR PARKING STANDARDS) AND 17.276 (WATER-EFFICIENT LANDSCAPES) AND APPLICABLE SECTIONS OF THE COUNTY OF RIVERSIDE MUNICIPAL CODE (ORDINANCES 348 - LAND USE, 457 - CALIFORNIA BUILDING CODE (EROSION CONTROL), 460 - SUBDIVISION, AND 461 - ROAD IMPROVEMENTS), THE COUNTYWIDE DESIGN STANDARDS & GUIDELINES (JANUARY 2004), GUIDE TO CALIFORNIA FRIENDLY LANDSCAPING (DECEMBER 2009), CALIFORNIA FRIENDLY PLANT LIST (MARCH 2013), FIRE DEPARTMENT REQUIREMENTS, OAK TREE MANAGEMENT GUIDELINES, AND THE REQUIREMENTS OF THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. IRRIGATION SYSTEM SHALL MINIMIZE THE USE OF OVERHEAD SPRAY TYPE SYSTEMS AND INCORPORATE DRIP OR BUBBLER TYPE IRRIGATION SYSTEMS.

ALL LANDSCAPE IMPROVEMENTS DEPICTED IN THIS DRAWING SET ARE TO BE MAINTAINED BY PRIVATE PROPERTY ASSOCIATION(S) OR HOMEOWNERS ASSOCIATION(S).

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=30'-0" SCALE
0 30 60

NORTH

LANDSCAPE RESIDENTIAL ENLARGEMENT PLAN | L-3

SAGE INVESTCO
INTRACORP
Building the Extraordinary
URBAN ARENA

WATER USE CALCULATIONS

TOTAL LANDSCAPE AREA 23,991 SF

MAXIMUM APPLIED WATER ALLOWANCE (MAWA)
MAWA = (ETO) X (0.7) X (LA) X (0.62) = GALLONS PER YEAR
MAWA = 61.65 X 0.7 X 23,991 X 0.62 = 641,905 GALLONS PER YEAR

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

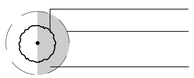
GENERAL NOTES

ALL LANDSCAPING, IRRIGATION AND RELATED IMPROVEMENTS SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF WILDOMAR, THE COUNTY OF RIVERSIDE (AS REQUIRED), RIVERSIDE COUNTY FIRE DEPARTMENT AND THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. REFERENCE THE CITY OF WILDOMAR MUNICIPAL CODE CHAPTERS 17.188 (OFF-STREET VEHICULAR PARKING STANDARDS) AND 17.276 (WATER-EFFICIENT LANDSCAPES) AND APPLICABLE SECTIONS OF THE COUNTY OF RIVERSIDE MUNICIPAL CODE (ORDINANCES 348 - LAND USE, 457 - CALIFORNIA BUILDING CODE (EROSION CONTROL), 460 - SUBDIVISION, AND 461 - ROAD IMPROVEMENTS), THE COUNTYWIDE DESIGN STANDARDS & GUIDELINES (JANUARY 2004), GUIDE TO CALIFORNIA FRIENDLY LANDSCAPING (DECEMBER 2009), CALIFORNIA FRIENDLY PLANT LIST (MARCH 2013), FIRE DEPARTMENT REQUIREMENTS, OAK TREE MANAGEMENT GUIDELINES, AND THE REQUIREMENTS OF THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. IRRIGATION SYSTEM SHALL MINIMIZE THE USE OF OVERHEAD SPRAY TYPE SYSTEMS AND INCORPORATE DRIP OR BUBBLER TYPE IRRIGATION SYSTEMS.

ALL LANDSCAPE IMPROVEMENTS DEPICTED IN THIS DRAWING SET ARE TO BE MAINTAINED BY PRIVATE PROPERTY ASSOCIATION(S) OR HOMEOWNERS ASSOCIATION(S).

SHADED PARKING CALCULATIONS

PARKING PROVIDED	195 SPACES (OPEN)
TOTAL AREA OF PARKING SPACES	26,669 SF
REQUIRED PERCENTAGE OF PARKING AREA TO BE SHADED	50% (50+ SPACES)
TOTAL SHADE PROVIDED	16,054 SF
PERCENT OF OPEN PARKING SHADED	61 %



BICYCLE PARKING CALCULATIONS

CAR PARKING PROVIDED	195 SPACES
EMPLOYEE SPACES REQUIRED (1 BICYCLE SPACE PER 25 CAR SPACES)	8 BIKE PARKING SPACES (CLASS I LOCKERS OR CLASS II RACKS IN AN ENCLOSED LOCKABLE AREA)
EMPLOYEE SPACES PROVIDED	8 BIKE PARKING SPACES (4 CLASS I LOCKERS - 2 BIKES PER LOCKER)
PATRON & VISITOR SPACES REQUIRED (1 BICYCLE SPACE PER 33 CAR SPACES)	6 BIKE PARKING SPACES (CLASS II RACKS)
PATRON & VISITOR SPACES PROVIDED	6 BIKE PARKING SPACES (3 CLASS II BIKE RACKS - 2 BIKES PER RACK)

INTERIOR PARKING LANDSCAPE

PARKING PROVIDED	195 SPACES
TOTAL AREA OF PARKING SPACES	26,669 SF
REQUIRED PERCENTAGE TO BE LANDSCAPED	10% (50+ SPACES)
TOTAL INTERIOR PARKING LANDSCAPE	3,606 SF
PERCENT OF INTERIOR PARKING LANDSCAPE PROVIDED	13 %

UTILITY COORDINATION

PLEASE NOTE THAT THE LOCATION OF ALL UTILITY STRUCTURES IS CONCEPTUAL ONLY AND WILL BE COORDINATED FURTHER DURING THE DESIGN DEVELOPMENT AND CONSTRUCTION DOCUMENTATION PHASE. CONCEPTUAL LIGHTING PLAN IS PROVIDED WITHIN THE DRAWING SET, REFER TO LIGHTING PLANS.

LANDSCAPE NOTES

A. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, MATURE SPECIMEN TREES IN THIRTY-SIX INCH (36") AND FORTY-EIGHT INCH (48") BOX TREES SHALL BE PROVIDED FOR LARGE PROJECT IN SUFFICIENT QUANTITY TO PROVIDE VARIETY AND EMPHASIS ON MAIN FOCAL AREAS. SUBJECT TO REVIEW AND APPROVAL OF THE DIRECTOR AND LANDSCAPE CONSULTANT.

B. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT SHALL INCLUDE 3 TO 4 FOOT HIGH LANDSCAPE SCREENING ELEMENTS ALONG ENTIRE PARKING FRONTAGE AT STREETS AND DRIVE AISLES. A COMBINATION OF LANDSCAPE BERMS, GROUPS OF SCREENING SHRUBS OR ENHANCED WALLS SHALL BE UTILIZED.

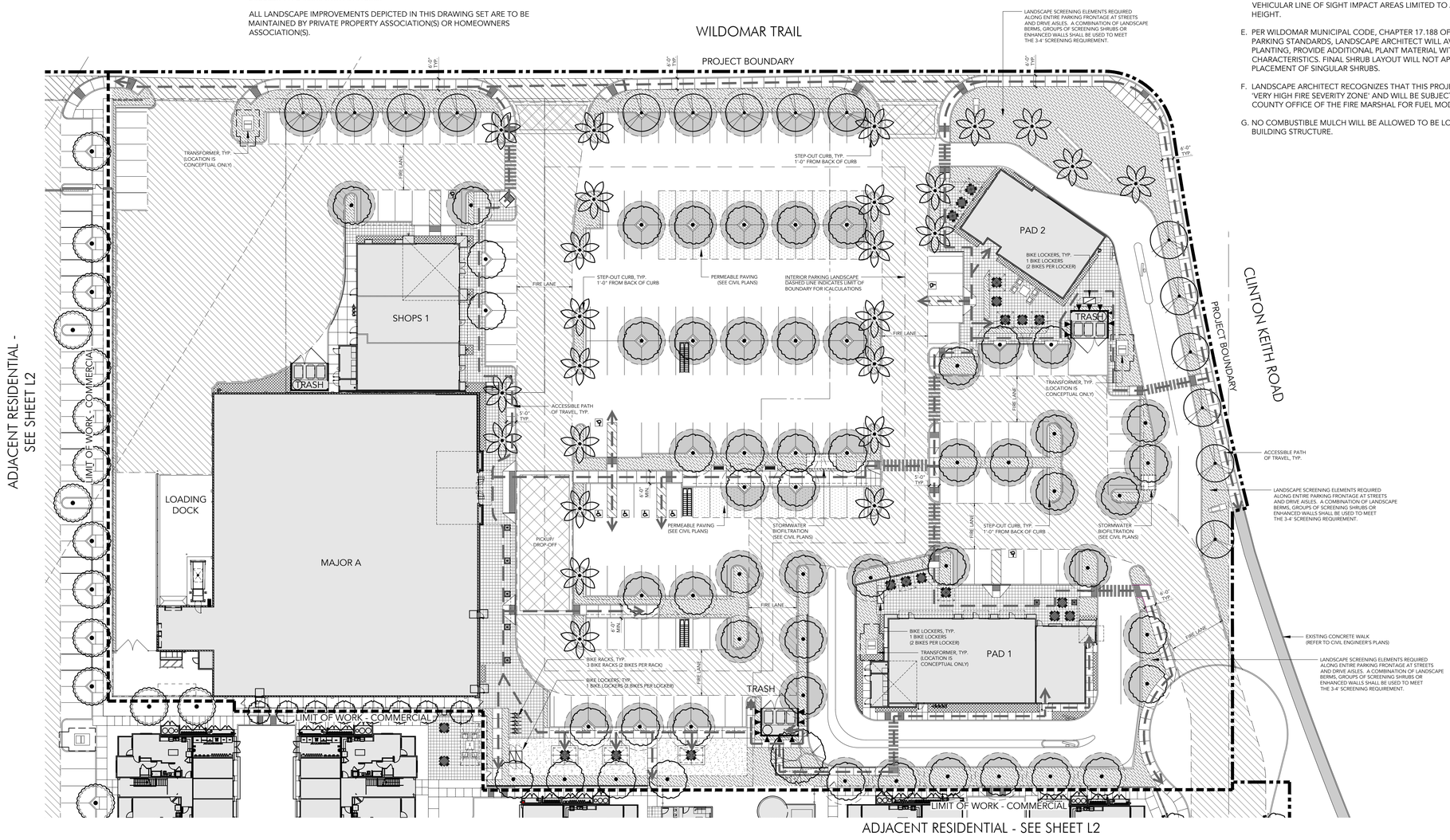
C. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL AVOID PLANTS THAT REQUIRE CUTTING BACK TO KEEP THEM WITHIN A SPECIFIC AREA OR AT A TRIMMED HEIGHT. PROVIDED SPACE FOR PLANTS TO GROW TO MATURITY AND KEEP THEIR NATURAL SHAPE.

D. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL SELECT PLANT MATERIALS WITHIN VEHICULAR LINE OF SIGHT IMPACT AREAS LIMITED TO A MAXIMUM OF 30" NATURAL HEIGHT.

E. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT WILL AVOID MONOCULTURE PLANTING, PROVIDE ADDITIONAL PLANT MATERIAL WITH VARYING CHARACTERISTICS. FINAL SHRUB LAYOUT WILL NOT APPEAR AS MASSES, NO SPOTTY PLACEMENT OF SINGULAR SHRUBS.

F. LANDSCAPE ARCHITECT RECOGNIZES THAT THIS PROJECT IS LOCATED WITHIN THE 'VERY HIGH FIRE SEVERITY ZONE' AND WILL BE SUBJECT TO REVIEW BY RIVERSIDE COUNTY OFFICE OF THE FIRE MARSHAL FOR FUEL MODIFICATION REQUIREMENTS.

G. NO COMBUSTIBLE MULCH WILL BE ALLOWED TO BE LOCATED WITHIN 5' OF ANY BUILDING STRUCTURE.



LANDSCAPE ZONES AND PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
STREET TREES SUCH AS:			
	CERCIDIUM X 'DESERT MUSEUM'	'DESERT MUSEUM' PALO VERDE	L
	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	M
	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	M
	PLATANUS X ACERIFOLIA	LONDON PLANETREE	M
	QUERCUS AGRIFOLIA	COAST LIVE OAK	L
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	M
PARKING TREES SUCH AS:			
	CASSIA LEPTOPHYLLA	GOLD MEDALLION TREE	M
	CUPANIOPSIS ANACARDIOIDES	CARROT WOOD	M
	GLEDITSIA TRIACANTHOS	HONEY LOCUST	L
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	PYRUS KAWAKAMII	EVERGREEN PEAR	M
	RHUS LANCEA	AFRICAN SUMAC	L
	ULMUS PARVIFOLIA	CHINESE ELM	L
ACCENT TREES SUCH AS:			
	ARBUTUS 'MARINA'	'MARINA' STRAWBERRY TREE	M
	BAUHINIA X BLAKEANA	HONG KONG ORCHID TREE	M
	GINKGO BILOBA	MAIDENHAIR TREE	M
	JACARANDA MIMOSIFOLIA	JACARANDA	M
	MAGNOLIA GRANIFLORA	SOUTHERN MAGNOLIA	M
	TABEBUIA CHRYSOTRICHA	GOLDEN TRUMPET TREE	M
	TABEBUIA IMPETIGINOSA	PINK TRUMPET TREE	M
SCREEN TREES SUCH AS:			
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	M
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	M
	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	M
	TIPUANU TIPU	TIPU TREE	M
PALM TREES SUCH AS:			
	ARCHONTOPHOENIX CUNNINGHAMIANA	KING PALM	M
	BRAHEA ARMATA	MEXICAN BLUE PALM	L
	PHOENIX DACTYLIFERA	DATE PALM	L
	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	L
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	L
FOUNDATION PLANTS SUCH AS:			
	LIGUSTRUM JAPONICUM 'TEXANUM'	WAX LEAF PRIVET	M
	PITTOSPORUM TOBIRA	MOCK ORANGE	M
	PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	M
	RHAPHIOLEPIS INDICA 'CLARA'	'CLARA' INDIAN HAWTHORN	M
	RHAPHIOLEPIS UMBELLATA 'MINOR'	YEDDO HAWTHORN	M
	XYLOSMA CONGESTA 'COMPACTA'	SHINY XYLOSMA	M
SHRUBS SUCH AS:			
	ALOE X SPECIES	ALOE	L
	AGAVE X SPECIES	AGAVE	L
	ARBUTUS UNEDO 'COMPACTA'	DWARF STRAWBERRY TREE	L
	ASPARAGUS DENSIFLORUS 'MYERS'	FOXTAIL FERN	M
	BOUGAINVILLEA 'LA JOLLA'	'LA JOLLA' BOUGAINVILLEA	L
	CALLISTEMON VIMINALIS 'LITTLE JOHN'	WEEPING BOTTLEBRUSH	M
	CAREX X SPECIES	SEDGE	L
	CARISSA MACROCARPA 'TUTTLE'	'TUTTLE' DWARF NATAL PLUM	M
	CHONDROPETALUM TECTORUM 'EL CAMPO'	'EL CAMPO' SMALL CAPE RUSH	M
	CORDYLINE X SPECIES	CORDYLINE	M
	DASYLIRION SPECIES	DESERT SPOON	L
	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	M
	DIETES GRANDIFLORA	FORTNIGHT LILY	M
	JUNCUS PATENS	CALIFORNIA GRAY RUSH	L
	LEUCADENDRON X 'SAFARI SUNSHINE'	CONEBUSH	M
	LOMANDRA X SPECIES	MAT RUSH	M
	PEDILANTHUS MACROCARPUS	SLIPPER	VL
	PHILODENDRON XANADU	XANADU PHILODENDRON	M
	PHORMIUM 'DARK DELIGHT'	'DARK DELIGHT' PURPLE FLAX	M
	SANSEVIERIA TRIFASCIATA	MOTHER-IN-LAW'S TOUNGE	L
	SESLERIA X 'GREENLEE'	'GREENLEE' MOOR GRASS	M
	STRELITZIA REGINAE	BIRD OF PARADISE	M
	WESTRINGIA FRUTICOSA 'SMOKEY'	'SMOKEY' WESTRINGIA	L
	ZAMIA FURFURACEA	CARDBOARD PALM	M
GROUNDCOVERS SUCH AS:			
	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BRUSH	L
	CAREX PRAEGRACILIS	CALIFORNIA FIELD SEDGE	M
	CARISSA MACROCARPA 'GREEN CARPET'	'GREEN CARPET' NATAL PLUM	M
	COTONEASTER SPECIES	COTONEASTER	M
	FESTUCA GLAUCA 'ELIJAH BLUE'	'ELIJAH BLUE' FESCUE	M
	MYOPORUM PARVIFOLIUM	PROSTRATE MYOPORUM	L
	ROSA SPECIES	CARPET ROSE	M
	SENECIO SERPENS	BLUE CHALKSTICKS	L
	TRADESCANTIA PALLIDA 'PURPLE HEART'	PURPLE QUEEN SPIDERWORT	M
VINES SUCH AS:			
	FICUS PUMILA	CLIMBING FIG	M
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	M

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=30'-0" SCALE 0 30 60

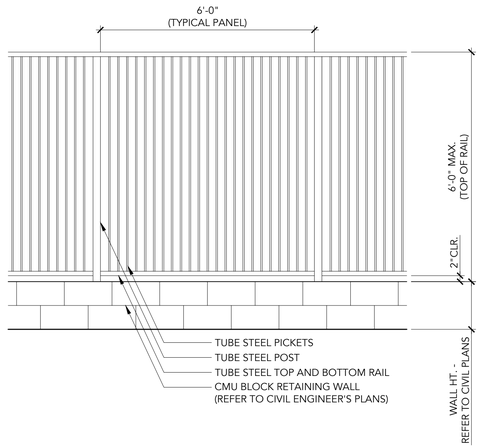
NORTH

SAGE INVESTCO

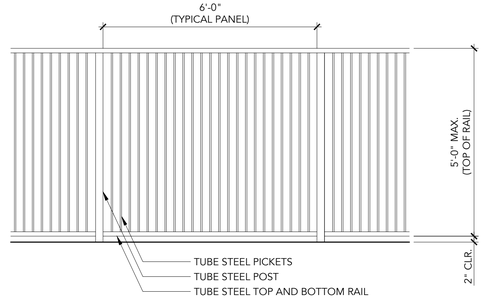
INTRACORP Building the Extraordinary

URBAN ARENA

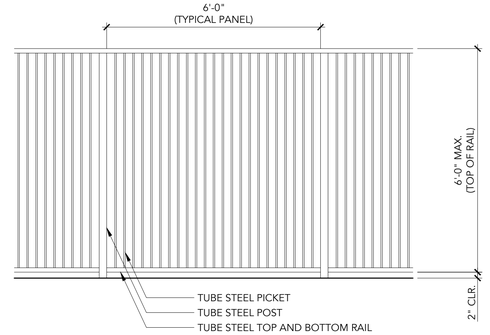
LANDSCAPE COMMERCIAL ENLARGEMENT PLAN | L-4



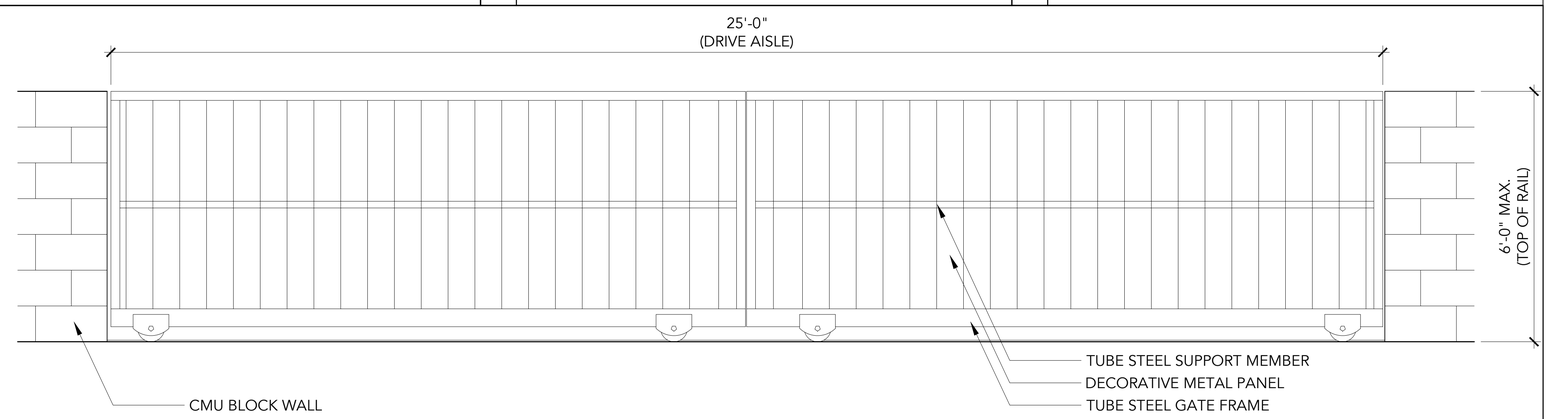
C | TUBE STEEL PERIMETER FENCE & WALL P-21.21.142-02 1/2" = 1'-0"



B | TUBE STEEL POOL ENCLOSURE FENCE P-21.21.142-03 1/2" = 1'-0"



A | TUBE STEEL PERIMETER FENCE P-21.21.142-01 1/2" = 1'-0"



D | ENTRY WALL AND VEHICULAR GATE P-21.21.142-04 3/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

LANDSCAPE CONCEPTUAL DETAILS | L-5

SAGE INVESTCO

INTRACORP
Building the Extraordinary

URBAN ARENA

SITE LIGHTING FIXTURE SCHEDULE

TYPE	SYMBOL	MANUFACTURER SPECS	DESCRIPTION	MOUNTING	LAMP INFO	LIGHTING CUTOFF TYPES PER CITY OF WILDOMAR MC CH#8.64	MAX LUMEN ALLOWED PER CITY OF WILDOMAR MC CH#8.64	LUMEN FACTOR PER CITY OF WILDOMAR MC CH#8.64	TOTAL COUNT RESIDENTIAL	TOTAL LUMENS RESIDENTIAL	TOTAL COUNT COMMERCIAL	TOTAL LUMENS COMMERCIAL
S1A		CYCLONE LIGHTING # CY55P1B–FGC–3MHS–30W–3K–BK–TX (1)M230 ARM	POLE MOUNTED AREA LIGHTING – SINGLE TYPE 3 MEDIUM OPTICS WITH HOUSESHIELD TEXTURED BLACK	14'–0" AFG TO TOP OF FIXTURE –	30W LED 3000K 4300 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 4300 LUMENS	13	55900	9	38700
S1B		CYCLONE LIGHTING # CY55P1B–FGC–3MHS–30W–3K–BK–TX (2)M230 ARMS @180°	POLE MOUNTED AREA LIGHTING – DOUBLE TYPE 3 MEDIUM OPTICS WITH HOUSESHIELD TEXTURED BLACK	14'–0" AFG TO TOP OF FIXTURE –	30W LED 3000K/HEAD 4300 LUMENS/HEAD	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 8600 LUMENS	6	51600	27	232200
S1C		CYCLONE LIGHTING # CY55P1B–FGC–3MHS–30W–3K–BK–TX (1)M230 ARM	POLE MOUNTED AREA LIGHTING – SINGLE TYPE 3 MEDIUM OPTICS WITH HOUSESHIELD TEXTURED BLACK	12'–0" AFG TO TOP OF FIXTURE –	30W LED 3000K 4300 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 4300 LUMENS	4	17200	0	0
S2		CYCLONE LIGHTING # CBM1105C–FGF–3–15W–3K–BB1–BK–TX	PEDESTRIAN DECORATIVE 44"H BOLLARD TYPE 3 OPTICS TEXTURED BLACK	GROUND MOUNT –	16W LED 3000K 858 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 858 LUMENS	14	12012	0	0
S3		LITHONIA LIGHTING # CLX–LED–24–1500–HEF–L–MVOLT–3000K	UNDER CANOPY LED 24"L STRIP WHITE	SURFACE MOUNTED UNDER CANOPY CEILING TRASH ENCLOSURES	10.4W LED 3000K 1220 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	0 % PER 8.64.090–1(A)(3) 0 LUMENS	2	EXEMPT	6	EXEMPT
S4		LITHONIA LIGHTING # DSXSC–LED–10C–700–30K–T5W–MVOLT	UNDER CANOPY LED STRIP TYPE 5 OPTICS NATURAL ALUMINUM	SURFACE MOUNTED UNDER CANOPY CEILING CARPORTS	26W LED 3000K 2570 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	0 % PER 8.64.090–1(A)(3) 0 LUMENS	19	EXEMPT	0	EXEMPT
S5A		LITHONIA LIGHTING # WDGE1–LED–P1–30K–VF	ARCHITECTURAL WALL SCONCE TYPE VISUAL COMFORT FORWARD THROW TEXTURED BLACK	9'–0" AFG TO BOTTOM OF FIXTURE (ABOVE EXTERIOR DOORS) 11'–0" AFG TO BOTTOM OF FIXTURE (AT GARAGE ALLEYS)	10W LED 3000K 1161 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 1161 LUMENS	41	47601	8	9288
S5B		LITHONIA LIGHTING # WDGE2–LED–P3–30K–VF	ARCHITECTURAL WALL SCONCE TYPE VISUAL COMFORT FORWARD THROW TEXTURED BLACK	16'–0" AFG TO BOTTOM OF FIXTURE –	23W LED 3000K 3015 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 3015 LUMENS	0	0	9	27135
S6A		ANP LIGHTING # W520–M009LDD–W–30K–72–E8	DECORATIVE 20" DIAMETER RLM SCONCE WITH 32"X12" ARM TEXTURED BLACK	9'–0" AFG TO BOTTOM OF FIXTURE (MINIMUM TO AFG)	9W LED 3000K 850 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 850 LUMENS	52	44200	34	28900
S6B		ANP LIGHTING # W520–M009LDD–W–30K–72–SLC	DECORATIVE 20" DIAMETER RLM PENDANT CORD OR PENDANT HUNG TEXTURED BLACK	9'–0" AFG TO BOTTOM OF FIXTURE (MINIMUM TO AFG)	9W LED 3000K 850 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	0 % PER 8.64.090–1(A)(3) 0 LUMENS	9	EXEMPT	22	EXEMPT
S7		PRIMUS LIGHTING # DSW–24–120–DSC7–PLED–S14F–27K	FESTOON LIGHTS WITH 24" SPACING STRING–HUNG	10'–0" DECORATIVE STRING HUNG (MINIMUM TO AFG)	1.5W LED 2700K 150 LUMENS	UNSHIELDED DECORATIVE	3000 LUMENS OR BELOW ALLOWED PER FIXTURE	100% PER 8.64.090–1(A)(4) 150 LUMENS	52	7800	0	0
S8		HYDREL LIGHTING # HSL13–6INCH–LED–3000K–MVOLT–L	6" WALL MOUNTED STEP LIGHTS BLACK	18" AFG TO BOTTOM OF FIXTURE (MINIMUM TO AFG)	5W LED 3000K 194 LUMENS	PARTIAL UNSHIELDED LOW–LEVEL	3000 LUMENS OR BELOW ALLOWED PER FIXTURE	100% PER 8.64.090–1(A)(4) 194 LUMENS	3	582	3	582
S9		ACCLAIM LIGHTING # LNE#1–COL#C–OPT#T–3K–(GROUND)	12" LINEAR WALL WASH BLACK	GROUND MOUNT –	12W LED 3000K 788 LUMENS	PARTIAL UNSHIELDED LOW–LEVEL	3000 LUMENS OR BELOW ALLOWED PER FIXTURE	100% PER 8.64.090–1(A)(4) 788 LUMENS	2	1576	9	7092

SITE LIGHTING PROJECT SUMMARY

COMMERCIAL PARCEL

PROJECT SITE ACREAGE
= 4.63 ACRES

PROJECT SITE OCCUPANCY / ZONING
= C–P–S, SCENIC HIGHWAY COMMERCIAL

LUMINAIRE CUT–OFF TYPES USED:
= FULLY SHIELDED FIXTURES – GENERAL USE
= UNSHIELDED FIXTURES – DECORATIVE AND AMBIANCE USE

LUMEN ALLOWANCE PER ACRE
PER CITY OF WILDOMAR MUNICIPAL CODE CHAPTER 8, TABLE 8.64.090–1
COMMERCIAL PARCEL: (OPTION 3)
= 175000 LUMENS OF COMBINED SHIELDED AND UNSHIELDED
= 11000 LUMENS OF UNSHIELDED

PROJECT SITE TOTAL LUMEN ALLOWANCE
= 810250 LUMENS OF COMBINED (175000L X 4.63 ACRES)
= 49280 LUMENS OF UNSHIELDED (50930L X 4.63 ACRES)

TOTAL LUMENS IN PROJECT OF COMBINED FIXTURES
PER FACTOR CALCULATIONS SHOWN ON FIXTURE SCHEDULE
= 343897 LUMENS (336223L, SHIELDED + 7674L, UNSHIELED)

TOTAL LUMENS IN PROJECT OF UNSHIELDED FIXTURES
PER FACTOR CALCLUATIONS SHOWN ON FIXTURE SCHEDULE
= 7674 LUMENS

RESIDENTIAL PARCEL

PROJECT SITE ACREAGE
= 4.48 ACRES

PROJECT SITE OCCUPANCY / ZONING
= R–2, RESIDENTIAL

LUMINAIRE CUT–OFF TYPES USED:
= FULLY SHIELDED FIXTURES – GENERAL USE
= UNSHIELDED FIXTURES – DECORATIVE AND AMBIANCE USE

LUMEN ALLOWANCE PER ACRE
PER CITY OF WILDOMAR MUNICIPAL CODE CHAPTER 8, TABLE 8.64.090–1
RESIDENTIAL PARCEL:
= 55000 LUMENS OF COMBINED SHIELDED AND UNSHIELDED
= 11000 LUMENS OF UNSHIELDED

PROJECT SITE TOTAL LUMEN ALLOWANCE
= 246400 LUMENS OF COMBINED (55000L X 4.48 ACRES)
= 49280 LUMENS OF UNSHIELDED (11000L X 4.48 ACRES)

TOTAL LUMENS IN PROJECT OF COMBINED FIXTURES
PER FACTOR CALCULATIONS SHOWN ON FIXTURE SCHEDULE
= 238471 LUMENS (228513L + 9958L, UNSHIELDED)

TOTAL LUMENS IN PROJECT OF UNSHIELDED FIXTURES
PER FACTOR CALCLUATIONS SHOWN ON FIXTURE SCHEDULE
= 9958 LUMENS

NOTE:
ALL EXTERIOR LIGHTING CONTROLS SHALL BE COMPLIANT PER
CITY OF WILDOMAR MUNICIPAL CODE: TITLE 8 / CHAPTER 8.64

PHOTOMETRICS STATISTICS - RESIDENTIAL

AREA	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
RESIDENTIAL – OVERHEAD SHED AT PATIO MAJOR A	*	2.9 fc	3.6 fc	2.3 fc	1.6:1	1.3:1
RESIDENTIAL – PARKING AMENITIES	*	1.1 fc	1.6 fc	0.6 fc	2.7:1	1.8:1
RESIDENTIAL – PARKING CARPORT – TYP	*	1.2 fc	1.5 fc	0.9 fc	1.7:1	1.3:1
RESIDENTIAL – PARKING CENTER	*	1.1 fc	2.2 fc	0.5 fc	4.4:1	2.2:1
RESIDENTIAL – PARKING NORTH	*	1.0 fc	2.4 fc	0.4 fc	6.0:1	2.5:1
RESIDENTIAL – PARKING SOUTHWEST FRONT	*	1.3 fc	1.7 fc	0.9 fc	1.9:1	1.4:1
RESIDENTIAL – PARKING WEST	*	1.0 fc	1.4 fc	0.5 fc	2.8:1	2.0:1
RESIDENTIAL – PEDESTRIAN TYPICAL	+	1.5 fc	6.0 fc	0.2 fc	30.0:1	7.5:1
RESIDENTIAL – POOL DECK BBQ	*	14.9 fc	19.7 fc	4.9 fc	4.0:1	3.0:1
RESIDENTIAL – POOL DECK AREA	*	2.1 fc	4.7 fc	1.0 fc	4.7:1	2.1:1
RESIDENTIAL – TRASH NORTH	*	1.7 fc	3.1 fc	0.4 fc	7.8:1	4.3:1
RESIDENTIAL – TRASH SOUTH	*	2.9 fc	5.2 fc	1.4 fc	3.7:1	2.1:1

PHOTOMETRICS STATISTICS - COMPOSITE

SITE BOUNDARY – EAST	+	0.6 fc	1.3 fc	0.1 fc	13.0:1	6.0:1
SITE BOUNDARY – NORTH	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A
SITE BOUNDARY – SOUTH	+	0.4 fc	1.1 fc	0.0 fc	N/A	N/A
SITE BOUNDARY – WEST	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A

PHOTOMETRICS STATISTICS - COMMERICIAL

AREA	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
COMMERCIAL – DRIVE THRU LANE PAD 1	*	1.3 fc	4.6 fc	0.4 fc	11.5:1	3.3:1
COMMERCIAL – DRIVE THRU LANE PAD 2	*	1.7 fc	5.9 fc	0.3 fc	19.7:1	5.7:1
COMMERCIAL – DRIVE THRU WINDOW PAD 1	+	13.3 fc	15.9 fc	11.9 fc	1.3:1	1.1:1
COMMERCIAL – DRIVE THRU WINDOW PAD 2	+	13.4 fc	15.6 fc	12.1 fc	1.3:1	1.1:1
COMMERCIAL – OVERHEAD WAITING SHEDS	*	2.2 fc	3.1 fc	1.3 fc	2.4:1	1.7:1
COMMERCIAL – PARKING CENTER	*	1.4 fc	3.3 fc	0.3 fc	11.0:1	4.7:1
COMMERCIAL – PARKING NORTHEAST	*	1.5 fc	3.7 fc	0.4 fc	9.3:1	3.8:1
COMMERCIAL – PARKING SOUTHEAST	*	1.3 fc	2.6 fc	0.3 fc	8.7:1	4.3:1
COMMERCIAL – PATIO PAD 1	*	5.6 fc	7.9 fc	3.7 fc	2.1:1	1.5:1
COMMERCIAL – PATIO PAD 2	*	2.3 fc	6.9 fc	1.0 fc	6.9:1	2.3:1
COMMERCIAL – PEDESTRIAN TYPICAL	+	1.3 fc	5.5 fc	0.3 fc	18.3:1	4.3:1
COMMERCIAL – TRASH MAJOR A	*	3.5 fc	5.9 fc	1.6 fc	3.7:1	2.2:1
COMMERCIAL – TRASH PAD 1	*	3.7 fc	5.5 fc	2.2 fc	2.5:1	1.7:1
COMMERCIAL – TRASH PAD 2	*	3.3 fc	5.1 fc	1.5 fc	3.4:1	2.2:1

SITE LIGHTING SHEET INDEX

E–0.0 SITE LIGHTING COVER SHEET
E–1.0 SITE LIGHTING LAYOUT – PARTIAL AREA NORTH
E–1.1 SITE LIGHTING LAYOUT – PARTIAL AREA SOUTH
E–2.0 SITE LIGHTING PHOTOMETRICS – PARTIAL AREA NORTH
E–2.1 SITE LIGHTING PHOTOMETRICS – PARTIAL AREA SOUTH
E–3.0 SITE LIGHTING FIXTURE CUTSHEETS
E–3.1 SITE LIGHTING FIXTURE CUTSHEETS
E–3.2 SITE LIGHTING FIXTURE CUTSHEETS

E0.0

ROY L. LOPEZ
No. 1344
Exp. 09/30/22
REGISTERED PROFESSIONAL ENGINEER
ELECTRICAL
STATE OF CALIFORNIA

SALASO'BRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING COVER SHEET

NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

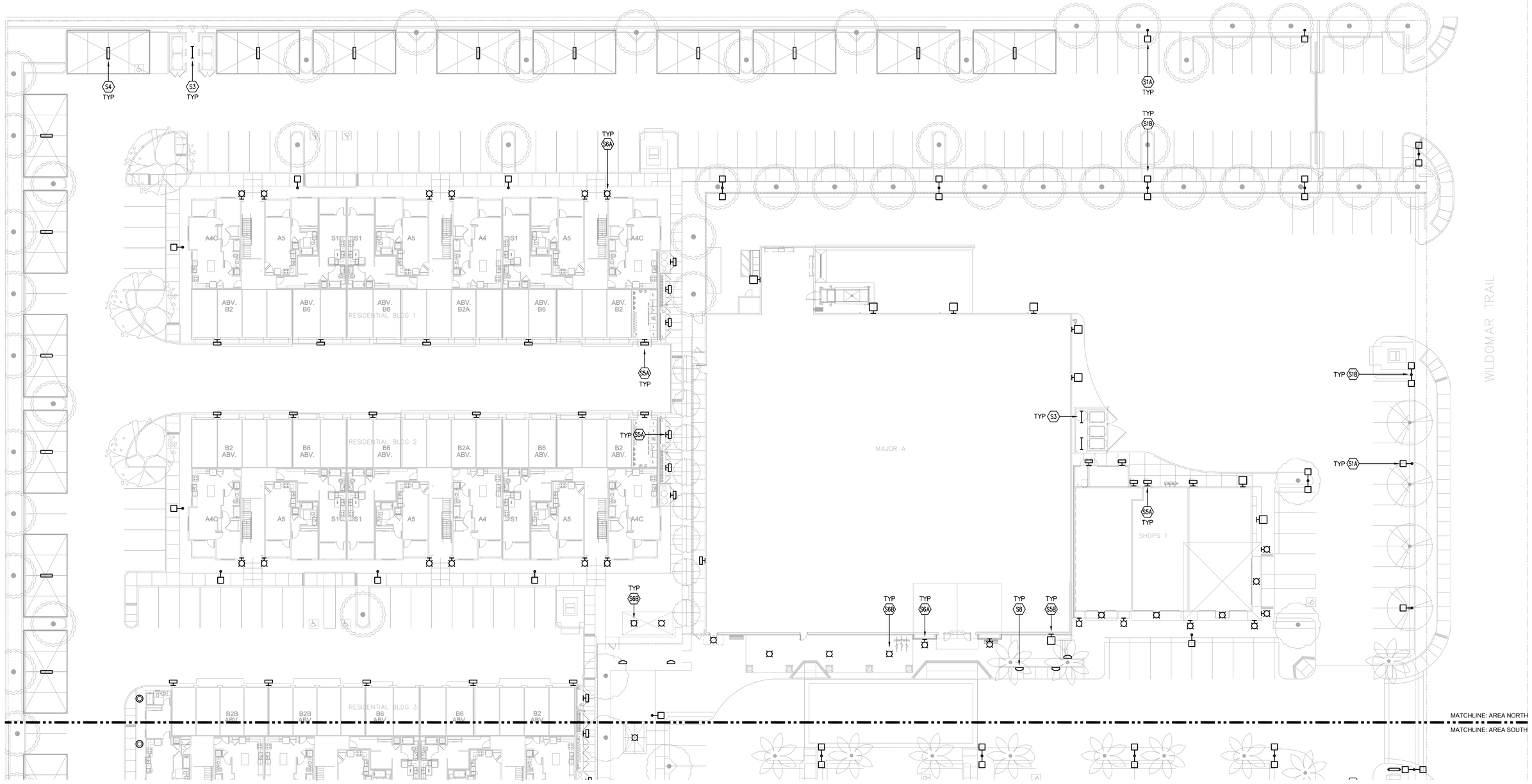
GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin Layout1 P:\2021\2021–03779\Cad\1_ENTITLEMENT\P21034_E00.dwg 04/19/2022 15:48
Last plotted by ramon.benjamin Layout1 P:\2021\2021–03779\Cad\1_ENTITLEMENT\P21034_E00.dwg 04/19/2022 15:53



Last saved by ramon.benjamin E10 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10_E11.dwg 04/19/2022 15:46
Last plotted by ramon.benjamin E10 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10_E11.dwg 04/19/2022 15:51

1"=20'-0" 0 10' 20' 40' 60'

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

E1.0

REGISTERED PROFESSIONAL ENGINEER ROY L. LOPEZ No. E-18307 ELECTRICAL STATE OF CALIFORNIA

SALASOBRIEN | expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553

#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING LAYOUT
PARTIAL AREA - NORTH

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

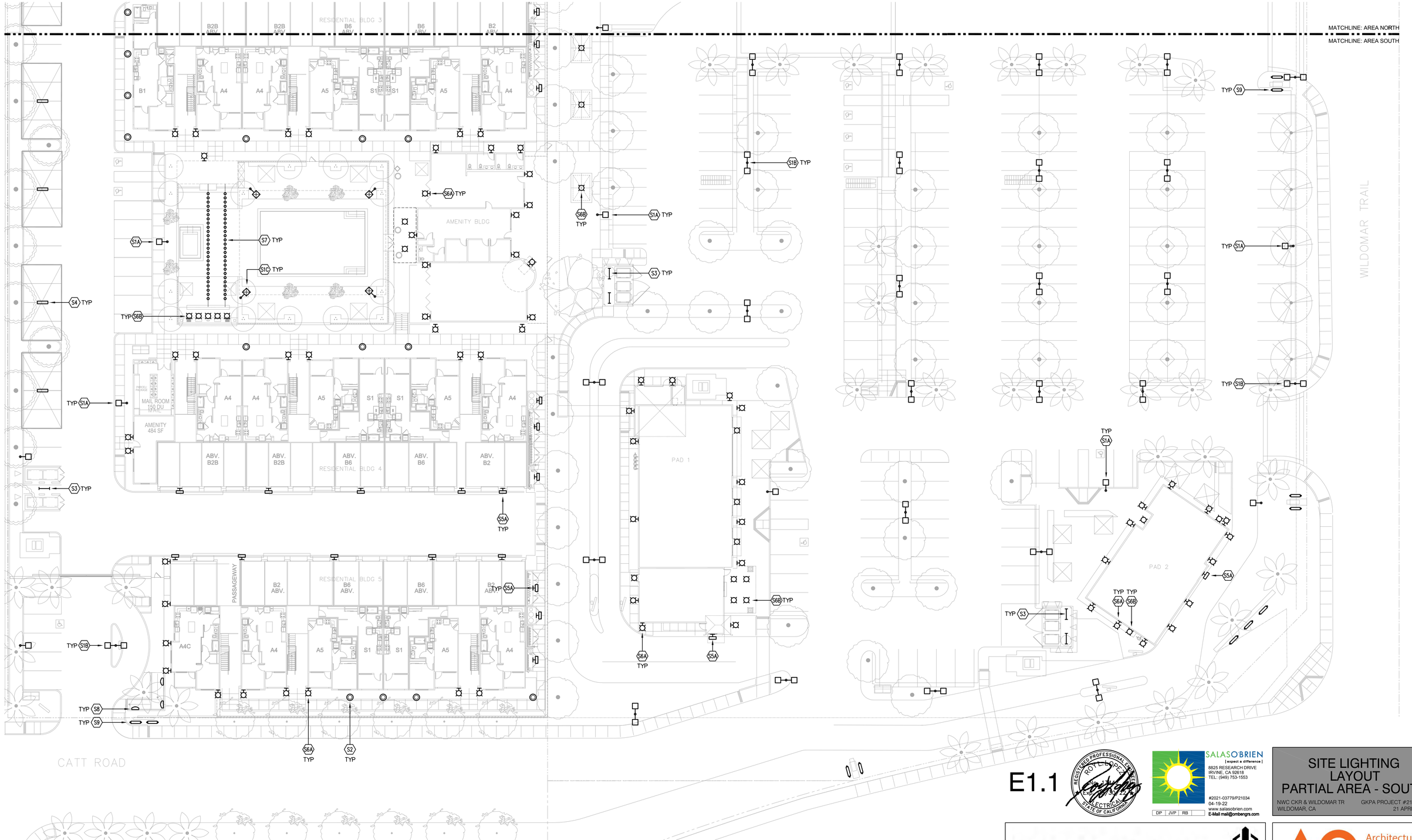
INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9660

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021



E1.1

SALASO'BRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING LAYOUT
PARTIAL AREA - SOUTH

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

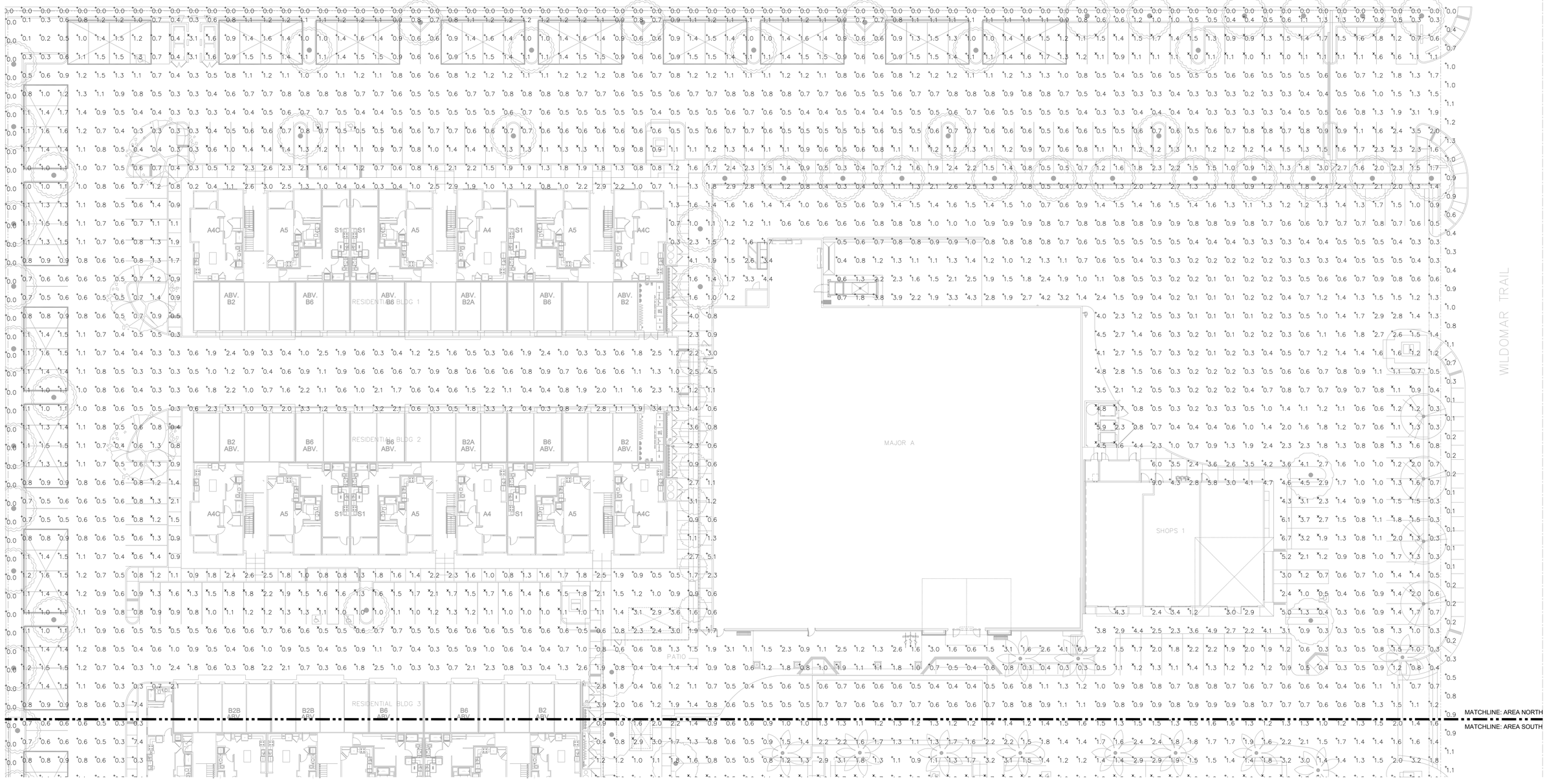
SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720
©GK PIERCE ARCHITECTS, INC. 2021

1"=20'-0" 0 10' 20' 40' 60'
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin E10 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10,E11.dwg 04/19/2022 15:46
Last plotted by ramon.benjamin E11 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10,E11.dwg 04/19/2022 15:51



E2.0

SALASO'BRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP JVP RB

SITE LIGHTING PHOTOMETRICS PARTIAL AREA - NORTH
NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

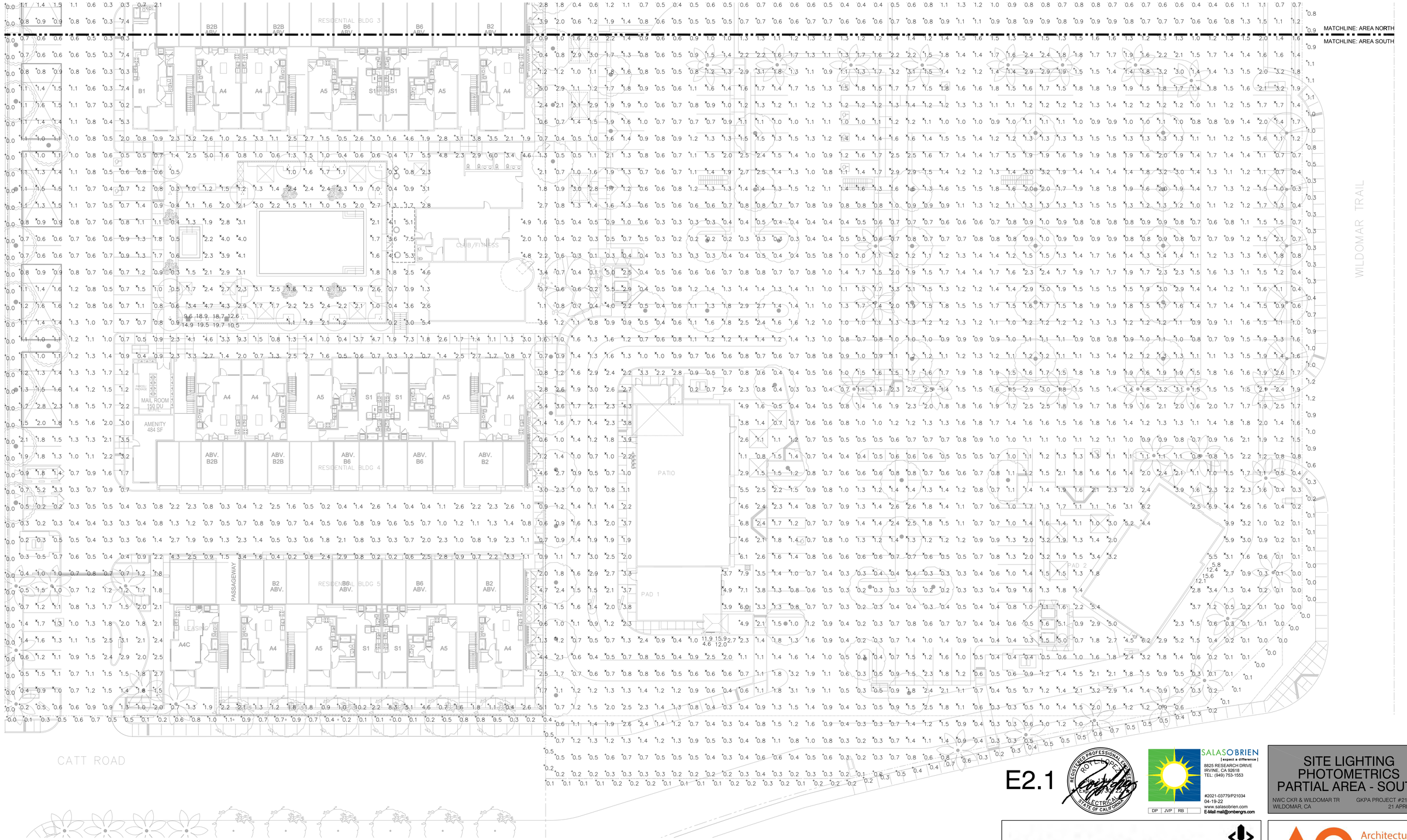
SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GKP GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720
©GK PIERCE ARCHITECTS, INC. 2021

1"=20'-0" 0 10' 20' 40' 60'
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin E21 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20,E21.dwg 04/19/2022 15:43
Last plotted by ramon.benjamin E20 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20,E21.dwg 04/19/2022 15:50



E2.1

SITE LIGHTING PHOTOMETRICS
PARTIAL AREA - SOUTH

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

REGISTERED PROFESSIONAL ENGINEER
ROY L. LOPEZ
Exp. 06-30-23
ELECTRICAL
STATE OF CALIFORNIA

SALASOBRIEN
[expect a difference]
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553

#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com

DP | JVP | RB

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

1"=20'-0" 0 10' 20' 40' 60'

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin E21 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20,E21.dwg 04/19/2022 15:43
Last plotted by ramon.benjamin E21 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20,E21.dwg 04/19/2022 15:51

TYPE S1A S1B S1C

cyclone Domia CY55P1B
Approval – Specification

Project: | Order:
Qty: | Luminaire: | Type:

Tenon Details: Round shape, made of one-piece cast A356 aluminum. An interior border makes it possible to fix the frame module. The certification, maintenance and coding labels of the luminaire are located inside de housing module.

Frame Module: Cast A356 aluminum ring mechanically fixed to the housing, with hinge and quarter-turn latch that accepts the lens module and provides access to the driver module.

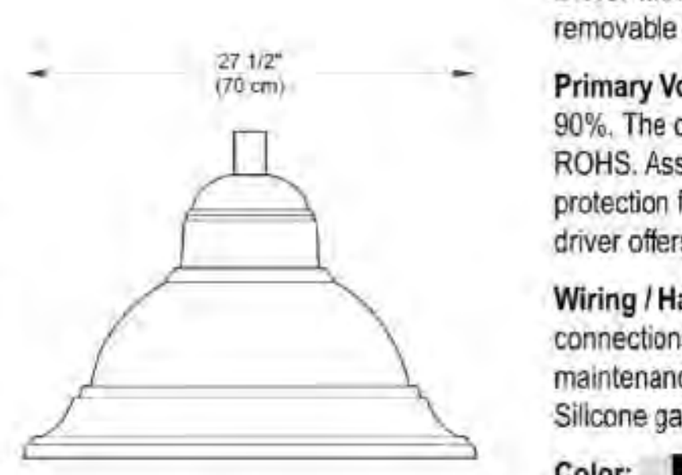
Optical Module: The cast A384 aluminum heat sink is optimized to minimize the temperature of the LEDs, increasing their longevity and efficiency. The lens module is assembled mechanically for easy replacement. A flat lens in ▼ is fixed on the cast aluminum frame. The lens is fully IP67 thanks to the silicone gasket. The high efficiency ▼ LED circuit is mechanically assembled on the heat sink. The lifetime of the LEDs is 100,000 hours. It is based on the LM-80 test and extrapolated with TM-21. This data is calculated when 50% of the LEDs produce 70% of their initial luminous flux (L70). The minimum color rendering index (CRI) is 70. The lenses are made of acrylic and designed to illuminate only where needed while achieving excellent uniformity with maximum spacing. The type according to IES ▼

Driver Module: The self-adjusting Class 1 (50W and over) or Class 2 (20 to 40W) driver is removable without tools.

Primary Voltage of ▼ **Volts**, 50 / 60Hz, THD max 20%. The high power factor is of 90%. The operating temperature is from -40° F (-40° C) to 130° F (55° C). Complies with ROHS. Assembled with quick-disconnect connectors. Complete with 10kA tripolar overvoltage protection for live, neutral and ground lines according to IEEE / ANSI C62.41 2002 C. The driver offers 0-10 Volts output.

Wiring / Hardware: Type TEW 14-7, 12" (30cm) minimum exceeding luminaire. All electrical connections between the modules are provided with quick-disconnect connectors for easy maintenance. All outside accessible hardware accessible is stainless steel. Silicone gaskets are used for sealing the luminaire.

Color: ▼ Textured or Smooth (SM) ▼ finish. The application of durable polyester powder coating meets AAMA 2604 requirements (5 years at all weather conditions). The finish meets ASTM G7, B117, D1654 and D2247 standards for salt spray and moisture. Cyclone recommends a textured finish for this product.



EPA: 1.61 ft² **Weight:** 52 lbs / 24 kg

Suggested Mountings
See Mounting Specification Sheets for details



Stamp/Approval: Name: Date: | Name: Date: | Page 1 of 2

© Cyclone Lighting 2020-12

cyclone Domia CY55P1B
Approval – Specification

Project: | Order:
Qty: | Luminaire: | Type:

Ordering Template

Model	Lens	Dist.	Performance Package	CCT	Volt	Adaptor	Ph Cell	Options	Color	Texture	Op. Fin.
CY55P1B	FGC	2	20W (3300LM)	3K	120-277	NONE	NONE	NONE	BK	TX	MG
	FGF	2HS	30W (4300LM)	4K	347-480		PC	ADV	DG	SM[1]	
		3	40W (5600LM)		120			FDP506	MA		
		3HS	50W (6900LM)		208			FDP508	SI[1]		
		3M	60W (7900LM)		240			SD	BZ		
		3MHS	80W (10500LM)		277				BG		
		4	100W (13900LM)		347				GM		
		4HS	120W (15500LM)		480				PG		
		5							WH		

[1] Not available for 480V

Ordering Code

References

Lens
- **FGC** Flat Glass Clear
- **FGF** Flat Glass Frosted

Distribution
- **2** Type 2
- **2HS** Type 2 with House Shield
- **3** Type 3
- **3HS** Type 3 with House Shield
- **3M** Type 3 Medium
- **3MHS** Type 3 Medium with House Shield
- **4** Type 4
- **4HS** Type 4 with House Shield
- **5** Type 5

See Photometric data document for photometric tables

CCT
- **3K** 3000K
- **4K** 4000K

Watt See Photometric Data document for lumen output per distribution and lens

Volts
- **120-277** MVOLT 120-277VAC
- **347-480** HVOLT 347-480VAC

Adaptor
- **None** Fits into Ø 2" I.D. X 4" long tenon

Photocell
- **PC** Button-type photocell

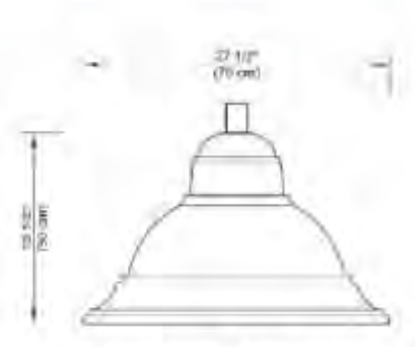
Options
- **ADV** Side Mount Fitter
- **FDP506** Program 50% for 6 hours (9PM to 5AM)
- **FDP508** Program 50% for 8 hours (9PM to 5AM)
- **SD*** Field adjustable 10% increment step-dimming switch

* Contact factory for wireless controls and more information regarding SD option

Color
- **BK** Black RAL9005
- **DG** Dark green RAL6012
- **MA** Marine blue RAL5013
- **SI** Metalic silver RAL9006 (smooth ony)
- **BZ** Dark bronze RAL8019
- **BG** Burgundy RAL3005
- **GM** Moss green RAL6005
- **PG** Pale grey RAL7040
- **WH** White RAL9003

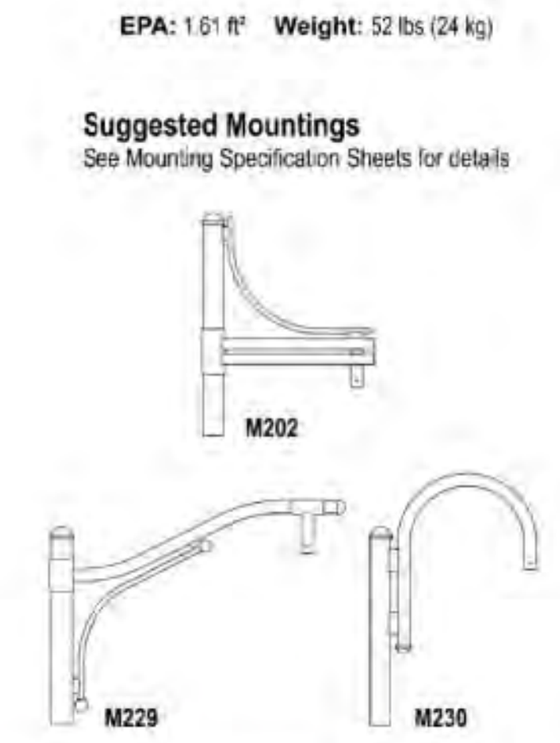
Texture
- **TX** Textured
- **SM** Smooth

Op. Fin. (Optional finish)
- **MG** Marine grade pre-finish



EPA: 1.61 ft² **Weight:** 52 lbs (24 kg)

Suggested Mountings
See Mounting Specification Sheets for details



Stamp/Approval: Name: Date: | Name: Date: | Page 2 of 2

© Cyclone Lighting 2020-12

TYPE S2

Bollard
CBM1105C

SOURCE: LED 4000K ± 150K, 70 CRI minimum[1]
WATERPROOF RATING: IP67 optical system
Dark Sky friendly optical system when using flat lens

LED code definition: 3 - 15W - 4K (Optical distribution – LED Wattage – Color temperature)



Flat Glass Frost (FGF)

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM[3]	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY[4]
3-15W-4K	858	48	15	18	460	B0-U1-G0	35W
5-15W-4K	958	53	15	18	460	B1-U1-G0	35W
3-25W-4K	1431	45	25	32	820	B1-U1-G0	50W
5-25W-4K	1597	50	25	32	820	B1-U1-G0	50W
3-30W-4K	1718	46	30	37	950	B1-U1-G0	70W
5-30W-4K	1916	52	30	37	950	B1-U1-G0	70W
3-35W-4K	2004	48	35	42	1050	B1-U1-G0	70W
5-35W-4K	2236	53	35	42	1050	B1-U1-G0	70W

Cylinder lens - CAP (POND finish)

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM[3]	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY[4]
3-15W-4K	531	30	15	18	460	B0-U2-G1	35W
5-15W-4K	579	32	15	18	460	B0-U2-G1	35W
3-25W-4K	886	28	25	32	820	B0-U2-G1	50W
5-25W-4K	966	30	25	32	820	B1-U2-G1	50W
3-30W-4K	1064	29	30	37	950	B1-U2-G1	70W
5-30W-4K	1156	31	30	37	950	B1-U2-G1	70W
3-35W-4K	1240	30	35	42	1050	B1-U2-G1	70W
5-35W-4K	1351	32	35	42	1050	B1-U2-G1	70W

[1]IES-TM-21 Calculated L70 is over 363 000 hours.
IES-TM-21 Reported more than 54 000 hours.
[2]System wattage includes the LED and the Driver.
[3]Equivalency should always be verified by photometric layout.
[4]4000K used for testing, 3000K photometrics is available on website

Note: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Cyclone Lighting. Cyclone Lighting reserves the right to substitute materials or change the manufacturing process of its products without prior notification. See the latest results and updates on our website at www.cyclonelighting.com

cyclone REV. 5: 09/20

Bollards
CBM1701C/CBM1105C/CBM1154C/CBM1210C/CBM2112C

Ordering Template

MODEL	LENS	DIST.	WATT	CT	VOLT	BASE	OPTIONS	COLOR	TEXTURE	OP.FIN.
CBM1701C	FGF	3	15W	3K	120	NONE[2]	NONE	BK	TX	MG
CBM1105C	CAC[1]	5	25W	4K	208	BB1[4]	PC[3,5]	DG	SM	
CBM1154C	CAP[1]		30W		240	BB2[4]	GFIC1	MA		
CBM1210C			35W		277	BB3[3,4]	GFIC2	SI		
CBM2112C					347			BZ		
					480			BG		
								GM		
								PG		
								WH		

[1]FOR ALL BOLLARD EXECEPT CBM1701C
[2]AVAILABLE ONLY WITH CBM1701C
[3]OPTION PC AND GFIC NOT AVAILABLE WITH BB3
[4]OPTION NOT AVAILABLE FOR CBM1701C
[5]OPTION NOT AVAILABLE WITH 480V

ORDERING CODE

References

LENS
- FGF FLAT GLASS FROST
- CAC CLEAR CYLINDRICAL ACRYLIC GLOBE
- CAP POND (DIFFUSED) CYLINDRICAL ACRYLIC GLOBE

DISTRIBUTION
SEE PHOTOMETRIC PAGE FOR DETAILS

WATT
SEE PHOTOMETRIC PAGE FOR LUMEN OUTPUT

CCT
- 3K 3000K
- 4K 4000K

BASE
- NONE NONE
- BB1 ROUND BASE
- BB2 ROUND BASE WITH BASE COVER
- BB3 RIBBED BASE

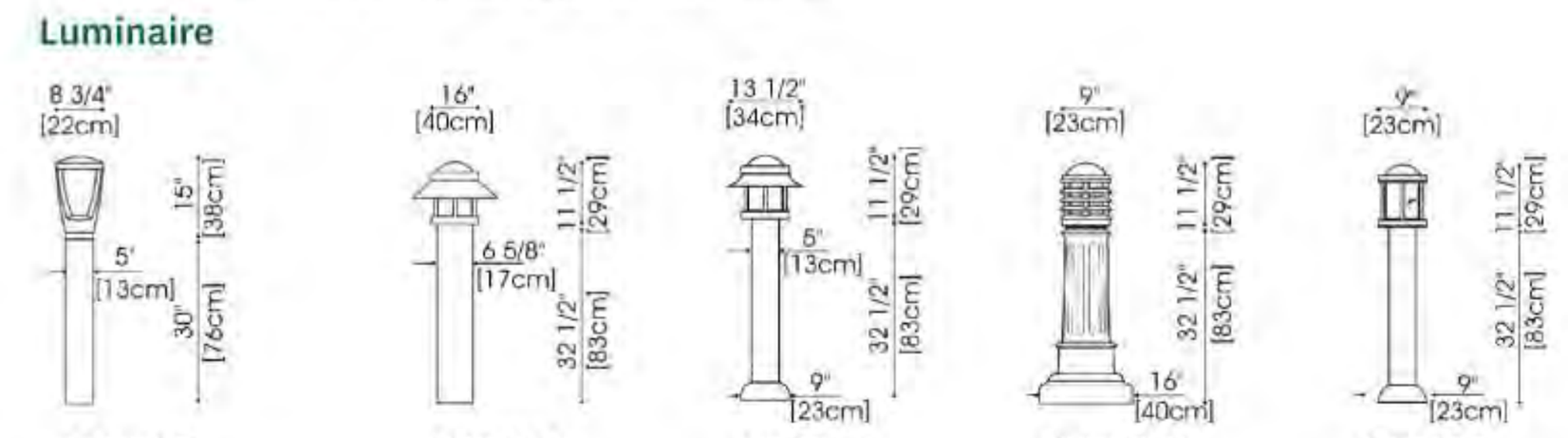
OPTIONS
- NONE NONE
- PC BUTTON-TYPE PHOTOCELL
- GFIC1 DUPLEX RECEPTACLE, GROUND FAULT CURRENT INTERRUPTER, 125 VAC (15A), COMPLETE WITH A LOCKABLE "IN-USE" WEATHERPROOF COVER
- GFIC2 DUPLEX RECEPTACLE, GROUND FAULT CURRENT INTERRUPTER, 125 VAC (20A), COMPLETE WITH A LOCKABLE "IN-USE" WEATHERPROOF COVER

COLOR
- BK BLACK RAL9005
- DG DARK GREEN RAL6012
- MA MARINE BLUE RAL5013
- SI METALLIC SILVER RAL9006 (SMOOTH ONLY)
- BZ DARK BRONZE RAL8019
- BG BURGUNDY RAL3005
- GM MOSS GREEN RAL6005
- PG PALE GREY RAL7040
- WH WHITE RAL9003

TEXTURE
- TX TEXTURED
- SM SMOOTH

OP.FIN. (OPTIONAL FINISH)
- MG MARINE GRADE PRE-FINISH

Luminaire



TYPE S3

LITHONIA LIGHTING

Catalog Number | Notes | Type

LED Linear
CLX
24", 36", 48" and 96" Lengths



FEATURES & SPECIFICATIONS

INTENDED USE — The CLX is a linear lighting solution that is available in multiple lengths, lumen packages and distributions. Designed for versatility, the CLX can address virtually any indoor lighting need. The CLX is also offered in standard and high efficacy configurations and capable of being continuous row mounted or installed as a stand-alone fixture. Ideal for uplight and downlight in commercial, retail, manufacturing, warehouse, and display applications. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate.** Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.

CONSTRUCTION — Channel and cover are formed from code-gauge cold-rolled steel. Housing and lens endcaps are injection molded plastic to provide a more architectural look and feel. The endcaps come standard with a 7/8" knock out for continuous mounting but can be ordered without.

Finish: Paint options include high-gloss, baked white polyester (WH), galvanized (GALV), matte black (MB) and smoke gray (SKGY). Five-stage iron phosphate pre-treatment ensures superior paint adhesion and rust resistance.

OPTICS — Offered with acrylic lens and less lens configurations. Provides a choice of optical distributions including, wide, narrow, and aisle.

ELECTRICAL — Utilizes high-output LEDs integrated on a two-layer circuit board, ensuring cool-running operation. Optional internal pluggable wiring harness for reduced labor cost in row mounting applications. (See PLR_ ordering information on page 14.) Electronic LED driver is multi-volt input and 0-10V dimming standard (see Operational Data on page 6 for actual wattage consumption). This fixture is designed to withstand a maximum line surge of 2.5kV at 0.75kA combination wave for indoor locations, for applications requiring higher level of protection additional surge protection must be provided.

L70>100,000 hours at 25°C.

LEDs provide nominal 80 CRI or 90 CRI at 3000 K, 3500 K, 4000 K or 5000 K.

Lumen output up to 2,500 lumens per foot.

INSTALLATION — Fixture may be ceiling or wall mounted (with or without THCLX hanger or angle mounted with CLXANGBRT), pendant or stem mounted with appropriate mounting options.

WARNING — Removing the lens and opening the fixture during installation exposes the LEDs, putting them at risk for damage.

If you plan to surface mount the fixture, we recommend using the THCLX. This eliminates the need to open the fixture.

If you plan to continuous row mount, we recommend using the PLR wiring harness option. This eliminates the need to open the fixture.

Damage to the LEDs caused during installation will not be covered under the warranty.

LISTINGS — CSA certified to US and Canadian safety standards. For use in damp locations between -4°F (-20°C) and 104°F (40°C). Optional High Ambient (HA) ranging to 122°F (50°C) available on certain lumen packages (See ambient temperature chart for additional information).

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

Stock configurations are offered for shorter lead times:

Stock Part Number	UPC	DLC QPL Product ID	DLC Premium
CLX L48 3000LM SEF FDL MVOLT GZ10 40K 80CRI WH	00191723525816	PJANKZR4	Yes
CLX L48 3000LM SEF FDL MVOLT GZ10 50K 80CRI WH	00191723525885	PKW32VKL	Yes
CLX L48 5000LM SEF FDL MVOLT GZ10 40K 80CRI WH	00191723525939	P7718Z20	Yes
CLX L48 5000LM SEF FDL MVOLT GZ10 50K 80CRI WH	00191723525908	P8A42C1H	Yes
CLX L96 6000LM SEF FDL MVOLT GZ10 40K 80CRI WH	00191723525861	PPFTGRBV	Yes
CLX L96 6000LM SEF FDL MVOLT GZ10 50K 80CRI WH	00191723525915	PW6250TE	Yes
CLX L96 10000LM SEF FDL MVOLT GZ10 40K 80CRI WH	00191723525922	PYKOC7EW	Yes
CLX L96 10000LM SEF FDL MVOLT GZ10 50K 80CRI WH	00191723525830	PKYPL35K	Yes
CLX L48 3000LM SEF RDL MVOLT GZ10 40K 80CRI WH	00191723525960	PJANKZR4	Yes
CLX L48 3000LM SEF RDL MVOLT GZ10 50K 80CRI WH	00191723525892	PKW32VKL	Yes
CLX L48 5000LM SEF RDL MVOLT GZ10 40K 80CRI WH	00191723525854	P7718Z26	Yes
CLX L48 5000LM SEF RDL MVOLT GZ10 50K 80CRI WH	00191723525946	P8A42C1H	Yes
CLX L96 6000LM SEF RDL MVOLT GZ10 40K 80CRI WH	00191723525878	PPFTGRBV	Yes
CLX L96 6000LM SEF RDL MVOLT GZ10 50K 80CRI WH	00191723525823	PDOSSIAD	Yes
CLX L96 10000LM SEF RDL MVOLT GZ10 40K 80CRI WH	00191723525953	PYKOC7EW	Yes
CLX L96 10000LM SEF RDL MVOLT GZ10 50K 80CRI WH	00191723525847	PKYPL35K	Yes

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

CLX LED Linear

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: CLX L48 5000LM SEF WDL MVOLT GZ10 40K 80CRI WH

Series	Length		Nominal lumens		Performance package	Louver		Lens	
CLX LED linear	L24	24"	1500LM	1,500 lumens	SEF Standard efficiency	(Blank)	Less louver	L/Lens	Less lens
			2000LM	2,000 lumens	HEF Premium efficiency	SBLW	Straight blade louver, white	FDL	Flat diffuse
			2500LM	2,500 lumens		SBLMB	Straight blade louver, matte black	RDL	Round diffuse
			3500LM	3,500 lumens		SBLGV	Straight blade louver, galvanized	WDL	Wide diffuse
			4500LM	4,500 lumens		SBLSKGY	Straight blade louver, smoke gray		
			5000LM	5,000 lumens					
	L36	36"	2250LM	2,250 lumens					
			3000LM	3,000 lumens					
			3750LM	3,750 lumens					
			5250LM	5,250 lumens					
			6750LM	6,750 lumens					
			7500LM	7,500 lumens					
	L48	48"	3000LM	3,000 lumens					
			4000LM	4,000 lumens					
			5000LM	5,000 lumens					
			7000LM	7,000 lumens					
			9000LM	9,000 lumens					
			10000LM	10,000 lumens					
	L96	96"	6000LM	6,000 lumens					
			8000LM	8,000 lumens					
			10000LM	10,000 lumens					
			14000LM	14,000 lumens					
			18000LM	18,000 lumens					
			20000LM	20,000 lumens					

Distribution		Voltage				Driver		Color temperature		Coloring rendering index	
(Blank)	General	MVOLT	120-277V	277	277V	GZ10	Generic 0-10V, dims to 10%	30K	3000 K	80CRI	80 CRI
ND	Narrow	120	120V	347	347V	EZ1	eldoLED 0-10V, dims to 1%	35K	3500 K	90CRI	90 CRI
WD	Wide	208	208V	480	480V			40K	4000 K		
AD2	Aisle, 24" off center	240	240V					50K	5000 K		

Options

- PS1050 Emergency battery pack, 10W, CA Title 20 Noncompliant
- E10WLCP Emergency battery pack, 10W Linear Constant Power, Certified in CA Title 20 MAEDBS
- BGTD Generator transfer device, not avaialble with PS1050
- DCS 5', 18/3 Reloc selectable One Pass cable (fixture will bear dry location label)
- HA High ambient, for use in ambient temperatures up to 50°C
- EPNKO Decorative endplate, no knock out
- OUTCTR Wiring leads pulled through back center of fixture
- OUTEND Wiring leads pulled through end of fixture
- Cord Sets:
- CS1W Straight blade plug, 120V
- CS3W NEMA twist-lock plug, 120V
- CS7W Staight blade plug, 277V
- CS11W NEMA twist-lock plug, 277V
- CS25W NEMA twist-lock plug, 347V
- CS97W NEMA twist-lock plug, 480V
- CS93W 600V SEOOW white cord, no plug (no voltage required)
- CS6WG16STOWDSD 6' white cord, 16/5, no plug, includes low voltage dimming wires (no voltage required)
- PLR__ Plug-in wiring, see page 14 for ordering information
- PLRLVG Plug-in wiring, low voltage dimming
- RRL__ RELOC®-ready luminaire. See page 14 for ordering information
- SPD Surge protection device, provides up to 6kV protection
- BAA Buy America(n) Act Compliant
- nLight® Wireless:
- NLTAIR2 RES7 nLight® Generation 2 enabled PIR integral occupancy sensor with automatic dimming photocell
- NLTAIR2 RES7PDT nLight AIR Generation 2 enabled dual technology integral occupancy sensor with automatic dimming photocell
- NLTAIR2 RIO No sensor control
- nLight® Wired:
- N100 nLight® without lumen management
- NES7 nLight® nES 7 PIR integral occupancy sensor
- NESPDT7 nLight® nES PDT 7 dual technology integral occupancy control
- NES7ADCX nLight® nES 7 ADCX PIR integral occupancy sensor with automatic dimming photocell
- NESPDT7ADCX nLight® nES PDT 7 dual technology integral occupancy sensor with automatic dimming photocell
- Individual controls:
- MSD7 PIR integral occupancy sensor
- MSDPDT7 PDT 7 dual technology integral occupancy control
- MSD7ADC PIR integral occupancy sensor with automatic dimming control photocell
- MSDPDT/ADC PDT integral occupancy sensor with automatic dimming control photocell

Finish
- WH White
- GALVW Galvanized with white lens end caps
- GALVB Galvanized with black lens end caps
- MB Matte black
- SKGYW Smoke gray with white lens end caps
- SKGYB Smoke gray with black lens end caps

See Accessories and footnotes on next page

© 2018-2021 Acuity Brands Lighting, Inc. All rights reserved.

TYPE S4



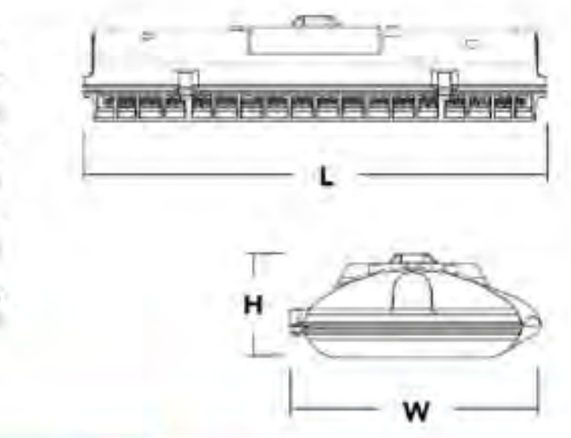
D-Series
LED Surface Canopy

Buy American

Catalog Number | Notes | Type

Specifications

Length:	17-3/4" (45.1 cm)
Width:	8-1/2" (21.6 cm)
Height:	3-7/16" (8.7 cm)
Weight (max):	16 lbs (7.3 kg)



Introduction

The D-Series LED Surface Canopy luminaire is ideal for covered walkways or drive-thrus, semi-covered outdoor aisles, and walk-in coolers and freezers. Its five optical choices provide the design flexibility to potentially reduce luminaire counts while still meeting IES criteria, lowering overall energy consumption.

Its expected service life of over 100,000 hours (20 years of nighttime operation) combined with the available motion/ambient sensor offers an extremely low maintenance solution that yields quick payback.

Ordering Information

EXAMPLE: DSXSC LED 20C 700 40K T5M MVOLT SRM DWHXD

DSXSC LED

Series	LEDs		Drive current		Color temperature		Distribution		Voltage		Mounting
DSXSC LED	10C	10 LEDs (one engine)	350	350 mA	30K	3000 K	T5E	Type V, entryway	MVOLT	277	Shipped included: SRM Surface mount (17-inch length supply leads)
	20C	20 LEDs (two engines)	530	530 mA	40K	4000 K	T5M	Type V, medium	120	347	
	30C	30 LEDs (three engines)	700	700 mA	50K	5000 K	T5W	Type V, wide	208	480	
			1000	1000 mA (1 A)	AMBPC	Amber phosphor converted	T5R	Type V, rectangular	240		
							ASY	Asymmetric			

Options

Shipped installed
- HS House-side shield (housing visor)
- SF Single fuse (120, 277, 347V)
- DF Double fuse (208, 240, 480V)
- SPD Separate surge protection
- DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)
- PIR Motion/ambient sensor for 8-15' mounting heights
- PIRH Motion/ambient sensor for 15-30' mounting heights
- PIR3FC3V Motion/ambient sensor for 8-15' mounting heights and for typical applications requiring daylight harvesting and Title 24 compliance
- PIRH3FC3V Motion/ambient sensor for 15-30' mounting heights and typical applications requiring daylight harvesting and Title 24 compliance
- PIR3FC3V924 Motion/ambient sensor for emergency circuits for 8-15' mounting heights
- PIRH3FC3V924 Motion/ambient sensor for emergency circuits for 15-30' mounting heights

Shipped separately
- BDS Bird shroud

Finish
- DWHXD White
- DNAXD Natural aluminum
- DDBXD Dark bronze

Accessories (Ordered and shipped separately)
- DSXSCHS U House-side shield (1 per light engine)
- DSXSCBDSSJ DWHXD U Bird shroud for SRM on surface J-box only, white (specify finish)

NOTES
1. Available with 700mA or 1000mA option only.
2. Not available with 347 or 480V.
3. AMBPC only available with 530mA or 700mA.
4. DesignLights Consortium qualified.
5. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options).
6. N/A with one light engine (10C). Only available with 700mA or 1000mA.
7. Also available as a separate accessory; see Accessories information at left.
8. Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
9. See the electrical section on page 3 for more details.
10. DMG not available with all PIR options
11. Dimming driver standard. Available in layouts up to 30'. Not available with 347V or 480V. Not available with fusing.
12. PIR & PIRH3FC3V specifies the Acuity Controls SBOR-10-ODP motion/ambient sensor, the PIRH & PIRH3FC3V specifies the Acuity Controls SBOR-6-ODP motion/ambient sensor.

© 2012-2021 Acuity Brands Lighting, Inc. All rights reserved.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts.

[illegible]

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.02
10°C	50°F	1.01
20°C	68°F	1.00
25°C	**77°F**	**1.00**
30°C	86°F	1.00
40°C	104°F	0.98

Electrical Load

LEDs	Drive Current (mA)	System Watts	120V	208V	240V	277V	347V	480V
10C	700	26W	0.25	0.15	0.13	0.11	–	–
	1000	37W	0.37	0.21	0.18	0.16	–	–
20C	350	25W	0.23	0.13	0.12	0.10	–	–
	530	37W	0.33	0.19	0.17	0.14	–	–
	700	46W	0.43	0.25	0.22	0.19	0.15	0.11
	1000	74W	0.68	0.39	0.34	0.29	0.23	0.17
30C	350	35W	0.33	0.19	0.16	0.14	–	–
	530	53W	0.50	0.29	0.25	0.22	–	–
	700	67W	0.66	0.38	0.33	0.29	0.23	0.17
	1000	107W	1.01	0.58	0.50	0.44	0.35	0.25

(Current (A))

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor – DSXSC LED 10C 1000	1.0	0.97	0.94	0.90
DSXSC LED 30C 1000	1.0	0.93	0.89	0.80
DSXSC LED 30C 700	1.0	0.98	0.97	0.95

© 2012-2021 Acuity Brands Lighting, Inc. All rights reserved.

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

E3.0

REGISTERED PROFESSIONAL ENGINEER — ROY L. LOPEZ — No. 1344 — Exp. 09/30/22 — ELECTRICAL — STATE OF CALIFORNIA

SALASOBRIEN | expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING FIXTURE CUTSHEETS

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

EE

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

Last saved by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E30.dwg 04/19/2022 15:46
Last plotted by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E30.dwg 04/19/2022 15:54

TYPE S5A



WDGE1 LED
Architectural Wall Sconce

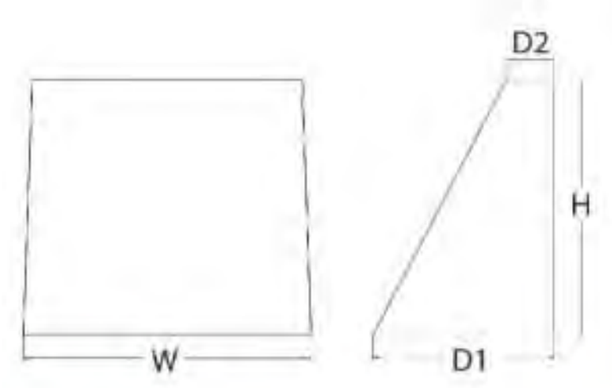
DLC PREMIUM · DLC · ida · Buy American · TITLE 20

Catalog Number	
Notes	
Type	

Introduction
The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

Specifications
Depth (D1): 5.5"
Depth (D2): 1.5"
Height: 8"
Width: 9"
Weight: (without options) 9 lbs



WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (4000K) P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	–	–	1,200	2,000	–	–	–	–
WDGE2 LED	10W	18W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000	–
WDGE3 LED	15W	18W	Standalone / nLight	7,500	8,500	10,000	12,000	–	–
WDGE4 LED	–	–	Standalone / nLight	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information
EXAMPLE: WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE1 LED	P1 P2	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K[1] 5000K	80CRI 90CRI	VF Visual comfort forward throw VW Visual comfort wide	MVOLT 347[2]	**Shipped included** SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[5] **Shipped separately** AWS 3/8inch Architectural wall spacer PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available.

Options	Finish
E4WH[3] Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min) PE[4] Photocell, Button Type DS Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details) DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately) BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points.	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

Accessories
Ordered and shipped separately.

WDGEAWS DDBXD — WDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE1PBBW DDBXD U — WDGE1 surface-mounted back box (specify finish)

NOTES
1 50K not available in 90CRI.
2 347V not available with E4WH, DS or PE.
3 E4WH not available with PE or DS.
4 PE not available with DS.
5 Not qualified for DLC. Not available with E4WH.

LITHONIA LIGHTING · COMMERCIAL OUTDOOR · One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
© 2019-2021 Acuity Brands Lighting, Inc. All rights reserved.
WDGE1 LED Rev. 08/31/21

Performance Data

Lumen Output
Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	27K Lumens	LPW	B	U	G	30K Lumens	LPW	B	U	G	35K Lumens	LPW	B	U	G	40K Lumens	LPW	B	U	G	50K Lumens	LPW	B	U	G
P1	10W	VF	1,120	112	0	0	0	1,161	116	0	0	0	1,194	119	0	0	0	1,227	123	0	0	0	1,235	123	0	0	0
		VW	1,122	112	0	0	0	1,163	116	0	0	0	1,196	120	0	0	0	1,229	123	0	0	0	1,237	124	0	0	0
P2	15W	VF	1,806	120	1	0	0	1,872	125	1	0	0	1,925	128	1	0	0	1,978	132	1	0	0	1,992	133	1	0	0
		VW	1,809	120	1	0	0	1,876	125	1	0	0	1,929	128	1	0	0	1,982	132	1	0	0	1,996	133	1	0	0

Electrical Load

Performance Package	System Watts	120V	208V	240V	277V	347V
P1	10W	0.082	0.049	0.043	0.038	–
	13W	–	–	–	–	0.046
P2	15W	0.132	0.081	0.072	0.064	–
	18W	–	–	–	–	0.056

Lumen Multiplier for 90CRI

CCT	Multiplier
27K	0.845
30K	0.867
35K	0.845
40K	0.885
50K	0.898

Lumen Output in Emergency Mode (4000K, 80 CRI)

Option	Dist. Type	Lumens
E4WH	VF	646
	VW	647

Lumen Ambient Temperature (LAT) Multipliers
Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance
Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).
To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.95	>0.91

LITHONIA LIGHTING · COMMERCIAL OUTDOOR · One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
© 2019-2021 Acuity Brands Lighting, Inc. All rights reserved.
WDGE1 LED Rev. 08/31/21

TYPE S5B



WDGE2 LED
Architectural Wall Sconce
Visual Comfort Optic

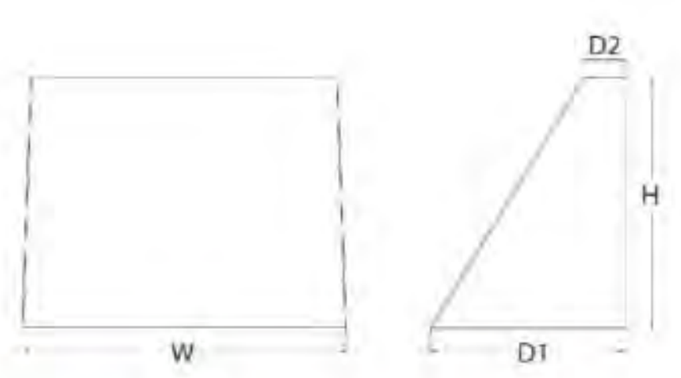
DLC PREMIUM · DLC · ida · Buy American · TITLE 20

Catalog Number	
Notes	
Type	

Introduction
The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 delivers up to 6,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

Specifications
Depth (D1): 7"
Depth (D2): 1.5"
Height: 9"
Width: 11.5"
Weight: (without options) 13.5 lbs



WDGE LED Family Overview

Luminaire	Optics	Standard EM, 0°C	Cold EM, -20°C	Sensor	Approximate Lumens (4000K, 80CRI) P0	P1	P2	P3	P4	P5	P6
WDGE1 LED	Visual Comfort	4W	–	–	750	1,200	2,000	–	–	–	–
WDGE2 LED	Visual Comfort	10W	18W	Standalone / nLight	–	1,200	2,000	3,000	4,500	6,000	–
WDGE2 LED	Precision Refractive	10W	18W	Standalone / nLight	700	1,200	2,000	3,200	4,200	–	–
WDGE3 LED	Precision Refractive	15W	18W	Standalone / nLight	–	7,500	8,500	10,000	12,000	–	–
WDGE4 LED	Precision Refractive	–	–	Standalone / nLight	–	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information
EXAMPLE: WDGE2 LED P3 40K 80CRI VF MVOLT SRM DDBXD

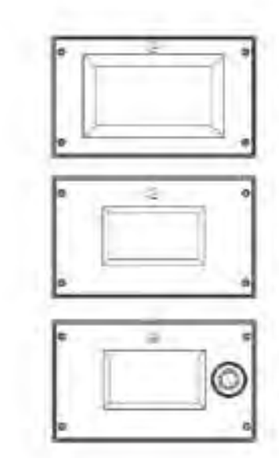
Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE2 LED	P1[1] P1SW P2[1] P2SW P3[1] P3SW P4[1] P5[1] Door with small window (SW) is required to accommodate sensors. See page 2 for more details.	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K[2] 5000K	80CRI 90CRI	VF Visual comfort forward throw VW Visual comfort wide	MVOLT 347[3] 480[3]	**Shipped included** SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only) **Shipped separately** AWS 3/8inch Architectural wall spacer PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available.

Options		Finish
E4WH Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min) E10WH Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min) E20WC Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min) PE[4] Photocell, Button Type DS[5] Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details) DMG[6] 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately) BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points.	**Standalone Sensors/Controls** (only available with P1SW, P2SW & P3SW) PIR Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching. PIRH Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching. PIR1FC3V Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation. PIRH1FC3V Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation. **Networked Sensors/Controls** (only available with P1SW, P2SW & P3SW) NLTAIR2 PIR nLightAIR Wireless enabled bi-level motion/ambient sensor for 8-15' mounting heights. NLTAIR2 PIRH nLightAIR Wireless enabled bi-level motion/ambient sensor for 15-30' mounting heights. See page 4 for out of box functionality.	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

LITHONIA LIGHTING · COMMERCIAL OUTDOOR · One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
© 2019-2021 Acuity Brands Lighting, Inc. All rights reserved.
WDGE2 LED Rev. 08/31/21

Accessories
Ordered and shipped separately.

WDGEAWS DDBXD — WDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE2PBBW DDBXD U — WDGE2 surface-mounted back box (specify finish)



Default configuration with no sensors/controls. Power Packages: P1, P2, P3, P4, P5
Small Window (SW) configuration. Power Packages: P1SW, P2SW, P3SW
Configuration with sensors/controls. Power Packages: P1SW, P2SW, P3SW

NOTES
1 P1-P5 not available with sensors/controls. Sensors/controls only available with P1SW, P2SW and P3SW.
2 50K not available in 90CRI.
3 347V and 480V not available with E4WH, E10WH, E20WC or DS.
4 PE not available in 480V or with sensors/controls.
5 DS option not available with E4WH, E10WH, E20WC or sensors/controls.
6 DMG option not available with sensors/controls.
7 Not qualified for DLC. Not available with emergency battery backup or sensors/controls.

Performance Data

Lumen Output
Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	27K Lumens	LPW	B	U	G	30K Lumens	LPW	B	U	G	35K Lumens	LPW	B	U	G	40K Lumens	LPW	B	U	G	50K Lumens	LPW	B	U	G
P1 / P1SW	10W	VF	1,166	119	0	0	0	1,209	123	0	0	0	1,251	128	0	0	0	1,256	128	0	0	0	1,254	128	0	0	0
		VW	1,197	122	0	0	0	1,241	126	0	0	0	1,284	131	0	0	0	1,289	131	0	0	0	1,286	131	0	0	0
P2 / P2SW	15W	VF	1,878	129	1	0	0	1,947	134	1	0	0	2,015	139	1	0	0	2,023	139	1	0	0	2,019	139	1	0	0
		VW	1,927	133	1	0	0	1,997	137	1	0	0	2,067	142	1	0	0	2,075	143	1	0	0	2,071	143	1	0	0
P3 / P3SW	23W	VF	2,908	129	1	0	0	3,015	134	1	0	0	3,119	138	1	0	0	3,132	139	1	0	0	3,126	139	1	0	0
		VW	2,983	132	1	0	0	3,093	137	1	0	0	3,200	142	1	0	0	3,213	143	1	0	0	3,206	142	1	0	0
P4	35W	VF	4,096	117	1	0	1	4,247	121	1	0	1	4,394	126	1	0	1	4,412	126	1	0	1	4,403	126	1	0	1
		VW	4,202	120	1	0	0	4,357	125	1	0	1	4,508	129	1	0	1	4,526	129	1	0	1	4,517	129	1	0	1
P5	48W	VF	5,567	115	1	0	1	5,772	119	1	0	1	5,972	123	1	0	1	5,996	124	1	0	1	5,984	124	1	0	1
		VW	5,711	118	1	0	1	5,921	122	1	0	1	6,127	126	1	0	1	6,151	127	1	0	1	6,139	127	1	0	1

Electrical Load

Performance Package	System Watts	120V	208V	240V	277V	347V	480V
P1 / P1SW	10W	0.082	0.049	0.043	0.038	–	–
	13W	–	–	–	–	0.046	0.033
P2 / P2SW	15W	0.132	0.081	0.072	0.064	–	–
	18W	–	–	–	–	0.056	0.041
P3 / P3SW	23W	0.195	0.114	0.100	0.088	–	–
	26W	–	–	–	–	0.079	0.058
P4	35W	0.302	0.175	0.152	0.134	–	–
	38W	–	–	–	–	0.115	0.086
P5	48W	0.434	0.241	0.211	0.184	–	–
	52W	–	–	–	–	0.157	0.119

Lumen Multiplier for 90CRI

CCT	Multiplier
27K	0.845
30K	0.867
35K	0.845
40K	0.885
50K	0.898

Lumen Output in Emergency Mode (4000K, 80 CRI)

Option	Dist. Type	Lumens
E4WH	VF	646
	VW	647
E10WH	VF	1,658
	VW	1,701
E20WC	VF	2,840
	VW	2,913

Lumen Ambient Temperature (LAT) Multipliers
Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance
Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).
To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.95	>0.91

LITHONIA LIGHTING · COMMERCIAL OUTDOOR · One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
© 2019-2021 Acuity Brands Lighting, Inc. All rights reserved.
WDGE2 LED Rev. 08/31/21

TYPE S6A S6B

ANP Lighting — Specifications W520

Project: ______
Fixture Type: ______ Quantity: ______
Customer: ______



W520 LED

Weight: 2.5 lbs

Specifications
Material: RLM shades are constructed of heavy duty spun aluminum. Wall back plate and driver housing are cast aluminum. All fasteners are stainless steel. Inside of shade is reflective white finish for all colors except galvanized paint finish. Screw hardware may not match paint.

Glass: Choice of clear, frosted or prismatic glass up to 24w Max.

Electrical: Universal voltage 120-277 is standard. 0-10V, TRIAC and ELV dimming to 1% protocols are standard for LED modules. (12w is 120v and TRIAC dimming only)

See page 2 table for LED module and driver specs, voltage and dimming protocols.

Certifications: Cord mounts are UL Listed for dry locations. Arm mount, stem mount and wall mount are UL Listed for wet locations.

Finish: A polyester powder coat high quality finish is electro-statically applied and baked at 430° for exceptional durability and color retention. Products undergo an intensive five-step cleansing and pretreatment process for maximum paint adhesion.

Marine grade finish provides superior salt, humidity and UV protection. This coating withstands up to 3000 hours of continuous salt spray, comes with a 5-year warranty and is available in either a textured or gloss surface.

Modifications: Consult factory for custom or modified designs.

Catalog Logic: W520 - M024LDD W 40K - RTCW - E6 - 100GLCL - PC - 41 - UNV
(RLM Style · Light Source, Wattage & Dimming · Distribution · CCT · Driver Housing · Mounting · Glass & Guard · Accessories · Finish · Voltage)

Catalog Number: W520 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 UNV

1 LIGHT SOURCE & WATTAGES
M012LDN (12w, 750 lumen, Cree module) Integral driver, 120V, TRIAC dimming & narrow distribution only.
M009LDD (9w, 850 lumen, Cree module)
M010LDD (10w, 1250 lumen, Cree module)
M016LDD (16w, 2000 lumen, Cree module)
M024LDD (24w, 3000 lumen, Cree module)

2 DISTRIBUTION
W (T5 Wide Distribution with Dome LED Lens)
N* (T5 Narrow Distribution with Flat LED Lens)
*12w is narrow only, select "N".

3 COLOR TEMPERATURE (CCT)
27K (2700K)
30K (3000K)
35K (3500K)
40K (4000K)

4 DRIVER HOUSINGS*
NA (Housing not required for 12w)

Wall Mount Options — Choose Arm in Box 5
RTCW (Driver Housing for Wall only (E-arms); 6 1/2" OD x 5 5/8" H)
SRTCW (Smooth Driver Housing for Wall only (E-arms); 6" OD x 2 7/8" H)
RTCNCW (Driver Housing/No Spun Cover for Wall only (E-arms); 5 7/8" OD x 2 5/8" H)

Cord Mount Options — Choose Cord Style in Box 5
CRD-RTCC (Driver Housing for Cord only; 6 1/2" OD x 5 5/8" H)
CRD-SRTCC (Smooth Driver Housing for Cord only; 6" OD x 2 7/8" H)
CRD-RTCNCC (Driver Housing/No Spun Cover for Cord only; 5 7/8" OD x 2 5/8" H)

Cable Mount Options — Choose Cord Style in Box 5
SSC-RTCC (Driver Housing for SS Cable/Cord only; 6 1/2" OD x 5 5/8" H)
SSC-SRTCC (Smooth Driver Housing for SS Cable/Cord only; 6" OD x 2 7/8" H)
SSC-RTCNCC (Driver Housing/No Spun Cover for SS Cable/Cord only; 5 7/8" OD x 2 5/8" H)

Stem Mount Options — Choose Stem Size in Box 5
ST-RTCC (Driver Housing for Stem only; 6 1/2" OD x 5 5/8" H)
ST-SRTCC (Smooth Driver Housing for Stem only; 6" OD x 2 7/8" H)
ST-RTCNCC (Driver Housing/No Spun Cover for Stem only; 5 7/8" OD x 2 5/8" H)

Emergency Backup Housing Options — Choose EMG Driver in Box 7
CRD-DCCEM (Emergency Ballast Housing for Cord only; 12" OD x 1 1/2" H) Choose Cord Style in Box 5.
ST-DCCEM (Emergency Ballast Housing for Stem only; 12" OD x 1 1/2" H) Choose Stem Size in Box 5.
SSC-DCCEM (Emergency Ballast Housing for SS Cable/Cord only; 12" OD x 1 1/2" H) Choose Cord Style in Box 5.
*Driver Housing finish will match fixture finish.

5 MOUNTING SOURCES*
Arm Mounts: E3 E4 E6 E8 E9 E10 E11 E12 E18 E25
Wall Mounts: WM54 WM74 WM317
Post Mounts: PM10 PM20 PM30 PM40 PM50 PM319
Cord Mounts — Color & Style (See page 5 for color cord style)

SJT Cord: BLC (6' Black SJT Cord) · WHC (6' White SJT Cord)

Solid Fabric Colored Cords:
BLSF (6' Black) · ORSF (6' Orange)
GYSF (6' Gray) · LGSF (6' Lime Green)
CHSF (6' Chocolate Brown) · KGSF (6' Kelly Green)
WHSF (6' White) · CBSF (6' Cobalt Blue)
CASF (6' Cardinal) · SBSF (6' Sky Blue)

Patterned Fabric Colored Cords:
BWHPF (6' Black/White Houndstooth) · BIHPF (6' Brown/Ivory Houndstooth)
GYCPF (6' Gray/Citrus Yellow) · MOSPF (6' Magenta/Orange Stripe)
NMTPF (6' Navy Mini Tweed)

Glossy Fabric Colored Cords:
GMGF (6' Gun Metal) · SSGF (6' Sterling Silver)
CPGF (6' Copper Penny) · BRGF (6' Bronze)
GOGF (6' Gold)

Stem Mounts:
1/2" (13/16" OD) Rigid Stems: 2ST6 2ST12 2ST18 · 2ST24 2ST36 2ST48 · 2ST60 2ST72 2ST96
3/4" (1" OD) Rigid Stems: 3ST6 3ST12 3ST18 · 3ST24 3ST36 3ST48 · 3ST60 3ST72 3ST96
*Arm mounts, Wall mounts or Stem finish will match fixture finish.

© 2020 ANP Lighting. All rights reserved. These specifications are intended for general purposes only. ANP reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.
1-800-548-3227 ANPlighting.com
08012019

ANP Lighting — Specifications W520

Project: ______
Fixture Type: ______ Quantity: ______
Customer: ______

6 GLASS & GUARD*
Up to 24w MAX
100GLCL (Clear Glass)
100GLFR (Frosted Glass)
100GLPR (Prismatic Glass)
100GLCLGUP (Clear Glass & Small Wire Guard)
100GLFRGUP (Frosted Glass & Small Wire Guard)
100GLPRGUP (Prismatic Glass & Small Wire Guard)
100GLCLGUPC (Clear Glass & Cast Guard)
100GLFRGUPC (Frosted Glass & Cast Guard)
100GLPRGUPC (Prismatic Glass & Cast Guard)
100GLGUP (Small Wire Guard with No Glass)
100GLGUPC (Cast Guard with No Glass)
*Cast or Wire Guard finish will match fixture finish.

7 ACCESSORIES*
*EMG-LED06 (6w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) MUST CHOOSE DCCEM CANOPY IN BOX 4.
*EMG-LED10 (10w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) MUST CHOOSE DCCEM CANOPY IN BOX 4.
*EMG-LED16 (16w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) MUST CHOOSE DCCEM CANOPY IN BOX 4.
*EMG-LED20 (20w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) MUST CHOOSE DCCEM CANOPY IN BOX 4.
GR20 (20" Wire Grill)**
PC (Button Photo Cell) Remote Only
SC (Scroll for Arms)**
SLC (Sloped Ceiling Mount Canopy, 20° Max)**
SQ (Square Back Plate)**
SWL (Adjustable Locking Swivel)**
TBK (Turn Buckle Kit)**
*For Emergency lumen output data; see Resources section at www.ANPlighting.com
**Accessory finish will match fixture finish.

8 FINISHES
*Marine Grade Finish has an additional charge

Standard Color	Standard Gloss	Marine Grade	Premium Color	Premium Grade	Marine Grade
Aspen Green	10	10M	High Gloss Black	01	01M
Cantaloupe	11	11M	Arctic Silver	14	14M
Lilac	12	12M	Candy Apple Red	64	64M
Putty	13	13M	Cobalt Blue	65	65M
Raw Unfinished	40	NA	Caramel	66	66M
Black	41	41M	Butterscotch	67	67M
Forest Green	42	42M	Black Silver	68	68M
Bright Red	43	43M	Gunmetal Gray	69	69M
White	44	44M	Mayan Gold	79	NA
Bright Blue	45	45M	Textured Desert Stone	80	80M
Sunny Yellow	46	46M	Extreme Chrome	81	81M
Aqua Green	47	47M	Graystone	82	82M
Galvanized	49	NA	Oil Rubbed Bronze	83	83M
Navy	50	50M	Carbon Graphite	96	96M
Architectural Bronze	51	51M			
Patina Verde	52	52M			
Copper Clay	53	53M			
Silver	56	56M			
Black Verde	61	61M			
Painted Chrome	70	70M			
Painted Copper	71	71M			
Textured Black	72	72M			
Matte Black	73	73M			
Textured Architectural	76	76M			
Textured White	77	77M			
Textured Silver	78	78M			

Consult Factory for additional paint charges and availability.

9 VOLTAGE
UNV (120-277)

© 2020 ANP Lighting. All rights reserved. These specifications are intended for general purposes only. ANP reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.
1-800-548-3227 ANPlighting.com

TYPE S6A S6B (CONT.)

ANP Lighting — Specifications W520

Project: ______
Fixture Type: ______ Quantity: ______
Customer: ______

LED MODULE SPECIFICATIONS

LED	CCT	Typical Luminous Flux	System Wattage	Typical Efficacy
9W	2700K	850	11W	97
	3000K	850	11W	97
	3500K	850	11W	97
	4000K	850	11W	97
10W	2700K	1250	12W	125
	3000K	1250	12W	125
	3500K	1250	12W	125
	4000K	1250	12W	125
12W	2700K	750	12W	65
	3000K	750	12W	65
	3500K	750	12W	65
	4000K	750	12W	65
16W	2700K	2000	19W	125
	3000K	2000	19W	125
	3500K	2000	19W	125
	4000K	2000	19W	125
24W	2700K	3000	29W	125
	3000K	3000	29W	125
	3500K	3000	29W	125
	4000K	3000	29W	125

MODULE SPECIFICATION:
- Efficacy 65-125 lumens per watt
- Life: L70 50,000 hours
- Color temp: 2700K, 3000K, 3500K and 4000K
- CRI: >90

MODULE DRIVER SPECIFICATION:
- Input Voltage: 120-277 Volts; 50/60Hz
- Dimmable down to 1%
- 0-10V, TRIAC and ELV dimming protocols are standard. (12w is 120v and TRIAC dimming only)
- Output Current: Constant Current; 440mA to 940mA (model dependent)
- Driver Efficiency > 80%; Power Factor > 0.9
- Integral Surge Protection in conformance to ANSI C62.41 Category A.

MODULE LISTINGS
- Fully compliant with the RoHS Directive
- Certifications: CE/UL

WARRANTY
See www.ANPlighting.com for complete fixture warranty.
LED warranty information
- 5 year limited warranty*
*Limited Warranty: A typical year is defined as 4380 hours of operation

© 2020 ANP Lighting. All rights reserved. These specifications are intended for general purposes only. ANP reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.
1-800-548-3227 ANPlighting.com
08012019

ANP Lighting — Specifications W520

Project: ______
Fixture Type: ______ Quantity: ______
Customer: ______

ARM MOUNTS | Dimensions are Projection x Height | CB included with all arms | Arm will match fixture finish



WALL MOUNTS | Dimensions are Projection x Height | **POST MOUNTS** | Dimensions are Projection x Height



ACCESSORIES



Driver Housings



RTCW (6 1/2" OD x 5 5/8" H) Wall Only (E-arms)
RTCNCW (5 7/8" OD x 2 5/8" H) Wall Only (E-arms)
SRTCW (6" OD x 2 7/8" H) Wall Only (E-arms)
ST-RTCC (6 1/2" OD x 5 5/8" H) Stem Only
CRD-RTCC (6 1/2" OD x 5 5/8" H) Cord Only
SSC-RTCC (6 1/2" OD x 5 5/8" H) Cable Only
ST-RTCNCC (5 7/8" OD x 2 5/8" H) Stem Only
CRD-RTCNCC (5 7/8" OD x 2 5/8" H) Cord Only
SSC-RTCNCC (5 7/8" OD x 2 5/8" H) Cable Only
ST-SRTCC (6" OD x 2 7/8" H) Stem Only
CRD-SRTCC (6" OD x 2 7/8" H) Cord Only
SSC-SRTCC (6" OD x 2 7/8" H) Cable Only
ST-DCCEM (12" OD x 1 1/2" H) Stem Only
CRD-DCCEM (12" OD x 1 1/2" H) Cord Only
SSC-DCCEM (12" OD x 1 1/2" H) Cable Only

GLASS & GUARDS
UP TO 24W MAX
Glass Legend: CL = Clear FR = Frosted PR = Prismatic; 100 = Small 200 = Large



Glass Only (6 1/2" H X 4 1/8" W): 100GLCL · 100GLFR · 100GLPR
Glass with Cast Guard (7 1/2" H X 4 1/8" W): 100GLCLGUPC · 100GLFRGUPC · 100GLPRGUPC
Glass with Wire Guard (7 1/2" H X 4 1/8" W): 100GLCLGUP · 100GLFRGUP · 100GLPRGUP
Guards Only (7 1/2" H X 4 1/8" W): 100GLGUPC (Cast Guard) · 100GLGUP (Wire Guard)

© 2020 ANP Lighting. All rights reserved. These specifications are intended for general purposes only. ANP reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.
1-800-548-3227 ANPlighting.com
08012019

E3.1

REGISTERED PROFESSIONAL ENGINEER · ROY L. LOPEZ · No. 13447 · Exp. 09/30/22 · ELECTRICAL · STATE OF CALIFORNIA

SALAS O'BRIEN | expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING FIXTURE CUTSHEETS
NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720
©GK PIERCE ARCHITECTS, INC. 2021

Last saved by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E31.dwg 11/23/2021 11:44
Last plotted by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E31.dwg 04/19/2022 15:54

TYPE S7

PRIMUS

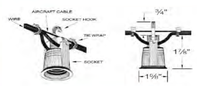
DECOSTRING SERIES

LED / INCANDESCENT

SUSPENDED DECORATIVE STRINGLIGHT SYSTEMS



PROJECT:
TYPE:



SOCKET, WIRE & CABLE DETAILS

Decostrings are a perfect accent lighting solution to add a personal ambience to patios, courtyards, atriums, restaurants, amusement parks and any open area. The "festoon" lighting system is typically strung between two anchorage points with optional intermediary support and electrically fed from one end. The sockets can be either symmetrically spaced or randomly spaced to suit the application. Optional shades, guards and lenses complete the architectural design.

SPECIFICATIONS

LAMPHOLDER	Black phenolic, medium base UL weatherproof with hook for optional mounting.
WIRE	12/2 G. Black flexible wire rated for 25A max. uv rated for outdoor use and long lasting.
SUPPORT CABLE	1/16" aircraft catenary cable supports the system, 480# test. Heavier cable available. (*See Page 7*)
LAMPS	LED and incandescent medium base A, G or S style lamps. (*See Page 3 for Lamp Options*)
ACCESSORIES	Optional brass, aluminum and acrylic shades. (*See Page 4 & 5 for Shade Options*) Consult factory for custom shades not shown in catalog.
GUIDELINES	Many ways to install and create a design. (*See Page 6 & 7*)
PHOTOMETRY	Bare lamp and shielded "BUG" rated JIES files available. (*See Page 8*) (Consult Factory or Visit Website)
CERTIFICATION	ETL listed for dry or wet and permanent installation. E201431 MADE IN THE USA
VOLTAGE	120V system (1920 watts max load). No driver or transformer required. (Consult Factory for 12V/24V)
DIMMING	Dimmable down to 10% with leading or trailing edge type dimmers.

PART NUMBER

SERIES	SPACING	VOLTS	LAMP	SHADE-FINISH	TERMINATION KIT	LENGTH
DSD DRY DSW WET	12 12'O/C 18 18'O/C 24 24'O/C 36 36'O/C 48 48'O/C (OTHER, SPECIFY)	120 120V	SELECT FROM LAMP PAGE 3	OPTIONAL SELECT FROM PAGE 4 & 5 OR LEAVE BLANK	STK STANDARD KIT TDK TURN BUCKLE KIT (SEE PAGE 7)	(SPECIFY)

PRIMUS

DECOSTRING LAMPS

LED / INCANDESCENT

LED FILAMENT STYLE LAMPS



STOCK
PLED-S14F-24K-150
PLED-S14F-27K-150
FROSTED-CONSULT FACTORY
1.5W | 150L



STOCK
PLED-G16.5F-3.5W-24K
PLED-G16.5F-3.5W-27K
3.5W | 325L

PLED-G16.5F-2W-24K
PLED-G16.5F-2W-27K
2W | 200L



A19, B, A19
CONSULT FACTORY
SPECIAL ORDER
(SUBJECT TO AVAILABILITY)



S14F VARIOUS COLORS
CONSULT FACTORY SPECIAL ORDER
(SUBJECT TO AVAILABILITY)



G25
CONSULT FACTORY
SPECIAL ORDER
(SUBJECT TO AVAILABILITY)

** NOTE: LED LAMPS DIM DOWN TO 10% WITH A TRAILING EDGE (ELV) DIMMER.*

INCANDESCENT LAMPS



LF
A15 CLEAR 120V 15W
LT
A15 CLEAR 120V 25W



LS
S14 CLEAR 120V 11W
COLORS AVAILABLE



LH-CL
G16.5 CLEAR 120V 25W
LH-WH
G16.5 WHITE 120V 25W



LG
S11 CLEAR 120V 7.5W
COLORS AVAILABLE

FULL SPECIFICATION SHEETS AVAILABLE AT PRIMUSLIGHTING.COM.
PHOTOMETRY: BARE LAMP AND SHIELDED "BUG" RATED IES FILES AVAILABLE - CONSULT FACTORY

TYPE S8

HYDREL

CATALOG NUMBER
NOTES
TYPE



HSL13

Static White and Static Color Step Light 13

HIGHLIGHTS

- Integral Driver
- Long throw distribution
- Standard 0-10V dimming option
- Die-cast housing with solid aluminum, brass, or stainless steel faceplate
- Wet location listed
- Back Box providec by Hydrel or by others

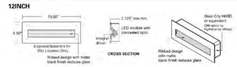
5 YEAR WARRANTY

LED

Buy American

DIMENSIONS

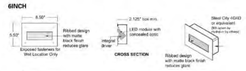
12INCH



9INCH



6INCH



3INCH



LUMEN PACKAGES

Distribution	Delivered Lumens	Input Watts	Lumens/ Watt
3INCH	87	3	29
6INCH	196	5	36
9INCH	299	8	37
12INCH	386	11	37

Performance data tested upon 30K LED

© 2013-2021 Acuity Brands Lighting, Inc. • One Lithonia Way Conyers GA 30012
Phone: 800-705-SERV (7378) • www.hydrel.com

ORDERING INFORMATION

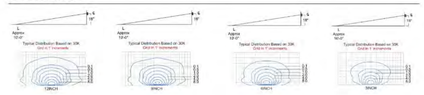
EXAMPLE: HSL13 3INCH LED 27K MVOLT L MINS BRB

Series*	Length*	Source*	Color Temperature*		Voltage*	Distribution*
HSL13 Step Light 13	3INCH 3" Nominal Length 6INCH 6" Nominal Length 9INCH 9" Nominal Length 12INCH 12" Nominal Length	LED	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	AMBPC Amber BLU Blue GRN Green RED Red CYN Cyan RDO Red-Orange	MVOLT Multi-Volt 120V thru 277V	L Long Throw

Dimming Optional	OPTION	Finish*
MINS Dimming Driver	BB Back Box Note: Include BB if you need a back box, otherwise back box is by others.	BRB Brushed Brass BBP Brushed Brass Paint BNSS Brushed Stainless Steel LBPS Light Bronze Paint Smooth PBR Polished Brass PSS Polished Stainless Steel SGB Semi Gloss Black SOW Semi Gloss White CF Custom Finish KALTRO Kal Pure Finishes Note: KALTRO for ordering only, replace with applicable BAL, BRZ, CPR, NCK, SAT, WHT, or BLK finish. KALTRO finishes are available indoors. Custom sizes may be required. Post Hydrel powdercoating over metalized paint.

Note: * is a required field

PERFORMANCE DATA



Expected Life: Static White LED: L70 @ 60,000 hours
Static Color LED: L70 @ 60,000 hours

Lumen Multiplier Table for CCT

CCT	Multiplier
27K	0.963
30K	1.000
35K	1.218
40K	1.153
50K	1.298

© 2013-2021 Acuity Brands Lighting, Inc. • One Lithonia Way Conyers GA 30012
Phone: 800-705-SERV (7378) • www.hydrel.com

TYPE S9

LINEAR ONE EXTERIOR

ACCLAIM LIGHTING



bin-one
ams

Client:
Project:
Type:
Order Code:
Quantity:

With **Linear One,** we set out to produce a series that works with your vision instead of crowding it. Acclaim Lighting continually strives for simple goals during the design process: be useful, stay out of the way, and function wonderfully. Creativity begins with great design and Linear One is streamlined to work for you. We meticulously craft linear lights that install with no visible cables and create the clutter-free space your work deserves. This means that subtlety enhances your aesthetic as Linear One remains hidden while serving as the powerhouse behind your visual creation. Refined to work with your creativity, Linear One provides end-to-end modular functionality that adapts to your needs and never works against them. Acclaim Lighting is motivated by the passion of its users and strives to produce the very best solutions in architectural lighting. We create beautiful products that work for creativity.

SPECIFICATIONS

Colors	2700K, 3000K, 3500K, 4000K (80 CRI or 90 CRI available), Red, Green, Blue, Amber
Beam Angles	10 x 10 , 30 x 30 , 60 x 60 , 100 x 100 , 10 x 25 , 10 x 40 , 10 x 70 , 30 x 60 , 40 x 70 Asymmetric (60 x 60 + 20 tilt), Batwing (split 10 x 40 or 40 x 70)
Housing Lengths	1' (304.8mm), 4' (1219.2mm)
Control	0-100% dimming via internal 0-10V driver, DMX via optional UDM, wireless via optional Aria
Max Fixtures in Series	80' (24m)
Power Consumption	**1':** 12W, **4':** 48W
Operating Voltage	100-277VAC, 50/60 Hz
Lumen Maintenance	L70 @ 150,000 hours (25 C)
Mounting	90 mounting bracket included, flat mounting bracket optional
Finish	Silver / finished aluminum, marine and natatorium environment capability standard.
Material	Aluminum body - Type III hard coat anodized, polycarbonate lens
Ambient Operating Temperature	-40 F to 131 F (-40 C to 55 C)
IP Rating	IP66, wet location - marine environment housing standard
IK Rating	IK10, protection against 5 joule impact (40cm distance)
Fixture Connectors	IP66 End to end multi-pin connection cables included
Warranty	5 Years, limited
Weight	**1':** 2.4 lbs, **4':** 9.7 lbs
Dimensions	**L:** 12" / 48" **W:** 2.12" **H:** 3.39" (L: 305 / 1220 W: 54 H: 86.2mm)
Certifications	ETL, CE

1
acclaimlighting.com

SPECIFICATION SHEET 2.1.2
Specifications subject to change without notice

ORDER CODES

* indicates special order

LNE# - COL# - OPT#

Length:
A = 1'
D = 4'

Color & CRI:
A = 2700K, 80 CRI
C = 3000K, 80 CRI
D = 3500K, 80 CRI
E = 4000K, 80 CRI
F = 2700K, 90 CRI*
G = 3000K, 90 CRI*
H = 3500K, 90 CRI*
J = 4000K, 90 CRI*
K = Red
L = Green
M = Blue
N = Amber

Optics:
C = 10 x 10
G = 30 x 30
K = 60 x 60
L = 100 x 100
M = 10 x 40
N = 10 x 25
R = 10 x 60
Q = 30 x 60
S = 40 x 70
T = Asymmetric Wall Wash (60 x 60 + 20 tilt)
V = Batwing (split 10 x 40)
W = Batwing (split 40 x 70)

RELATED COMPONENTS

Feed Cables



LNFC10
10' Feed Cable for Linear One Exterior
Multi-pin connector to bare wire AC + 0-10V

LNFC50
50' Feed Cable for Linear One Exterior
Multi-pin connector to bare wire AC + 0-10V

Link Cables



LNLC0
6" Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector, use for curved runs

LNLC1
1' Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector

LNLC5
5' Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector

LNLC10
10' Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector

2
acclaimlighting.com

SPECIFICATION SHEET 2.1.2
Specifications subject to change without notice

TYPE S9 (CONT.)

LINEAR ONE EXTERIOR

ACCLAIM LIGHTING

RELATED COMPONENTS

Optional Mounting Accessories



LNMT1
1' mounting track for Linear One
Aluminum profile, screws not included

LNMT4
4' mounting track for Linear One
Aluminum profile, screws not included



LNEB1
1' extender bar for Linear One
Aluminum body, screws not included

LNEB2
2' extender bar for Linear One
Aluminum body, screws not included

LNEB3
3' extender bar for Linear One
Aluminum body, screws not included



LNFMB
Flat Mounting Bracket for Linear One
2 pcs required per fixture, factory fixed option

Optional Beam Accessories



LNEGS1
1' single sided glare shield for Linear One Exterior

LNEGS4
4' single sided glare shield for Linear One Exterior



LNELV1
1' full louver for Linear One Exterior (use 4 pcs. for 4' fixture)

3
acclaimlighting.com

SPECIFICATION SHEET 2.1.2
Specifications subject to change without notice

LINEAR ONE EXTERIOR

ACCLAIM LIGHTING

DIMENSIONS

PHOTOMETRICS

80 CRI Versions, 10 x 10 , 1'

Color	Lumens/(per foot)	Max Candela	Efficacy (l/pw)	CRI	TM30
2700K	739	5643	63	81.1	81.2
3000K	788	6291	67	82.8	81.3
3500K	772	5897	66	84.3	82.6
4000K	770	5790	65	85.4	83.2

90 CRI Versions, 10 x 10 , 1'

Color	Lumens/(per foot)	Max Candela	Efficacy (l/pw)	CRI	TM30
2700K	574	4377	49	90.6	93
3000K	544	3844	47	91	89.2
3500K	568	4012	48	92.8	88.7
4000K	579	4103	48	90.1	90

4
acclaimlighting.com

SPECIFICATION SHEET 2.1.2
Specifications subject to change without notice

E3.2

REGISTERED PROFESSIONAL ENGINEER — ROY L. CLOPE — No. E-22430 — ELECTRICAL — STATE OF CALIFORNIA

SALASOBRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553

#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@combengrs.com

DP | JVP | RB

SITE LIGHTING FIXTURE CUTSHEETS

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

EE

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E32.dwg 11/23/2021 11:44
Last plotted by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E32.dwg 04/19/2022 15:53

Appendix 2

Wildomar Crossroads Mixed Use Project Air Quality Impact Analysis

Wildomar Crossroads

AIR QUALITY IMPACT ANALYSIS

CITY OF WILDOMAR

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Alyssa Barnett
abarnett@urbanxroads.com

APRIL 13, 2022

TABLE OF CONTENTS

TABLE OF CONTENTS ..... **I**
APPENDICES ..... **II**
LIST OF EXHIBITS ..... **II**
LIST OF TABLES ..... **II**
LIST OF ABBREVIATED TERMS ..... **III**
EXECUTIVE SUMMARY **1**

ES.1 Summary of Findings 1
ES.2 Regulatory Requirements 1
ES.3 Construction-Source Emissions MMs 3

1 INTRODUCTION **5**

1.1 Site Location 5
1.2 Project Description 5

2 AIR QUALITY SETTING **9**

2.1 South Coast Air Basin (SCAB) 9
2.2 Regional Climate 9
2.3 Wind Patterns and Project Location 10
2.4 Criteria Pollutants 11
2.5 Existing Air Quality 18
2.6 Regional Air Quality 21
2.7 Local Air Quality 21
2.8 Regulatory Background 22

3 PROJECT AIR QUALITY IMPACT **30**

3.1 Introduction 30
3.2 Standards of Significance 30
3.3 Models Employed To Analyze Air Quality 31
3.4 Construction Emissions 31
3.5 Operational Emissions 35
3.6 Localized Significance 37
3.7 Construction-Source Emissions LST Analysis 43
3.8 Operational-Source Emissions LST Analysis 45
3.9 CO "Hot Spot" Analysis 45
3.10 AQMP 47
3.11 Potential Impacts to Sensitive Receptors 49
3.12 Odors 51
3.13 Cumulative Impacts 52

4 REFERENCES **55**
5 CERTIFICATIONS **58**

APPENDICES

APPENDIX 2.1: STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS
APPENDIX 3.1: CALEEMOD CONSTRUCTION (UNMITIGATED) EMISSIONS MODEL OUTPUTS
APPENDIX 3.2: CALEEMOD CONSTRUCTION (MITIGATED) EMISSIONS MODEL OUTPUTS
APPENDIX 3.3: CALEEMOD MITIGATION REPORT MODEL OUTPUTS
APPENDIX 3.4: CALEEMOD OPERATIONAL EMISSIONS MODEL OUTPUTS
APPENDIX 3.5: SCAQMD AMICUS BRIEF

LIST OF EXHIBITS

EXHIBIT 1-A: LOCATION MAP 6
EXHIBIT 1-B: SITE PLAN 7
EXHIBIT 3-A: SENSITIVE RECEPTOR LOCATIONS 42

LIST OF TABLES

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS 1
TABLE 2-1: CRITERIA POLLUTANTS 11
TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (1 OF 2) 19
TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (2 OF 2) 20
TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB 21
TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2018-2020 22
TABLE 3-1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS 30
TABLE 3-2: CONSTRUCTION TRIP ASSUMPTIONS 32
TABLE 3-3: CONSTRUCTION DURATION 32
TABLE 3-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS 33
TABLE 3-5: OVERALL CONSTRUCTION EMISSIONS SUMMARY – WITHOUT MITIGATION 34
TABLE 3-6: OVERALL CONSTRUCTION EMISSIONS SUMMARY – WITH MITIGATION 35
TABLE 3-7: SUMMARY OF PEAK OPERATIONAL EMISSIONS 37
TABLE 3-8: MAXIMUM DAILY DISTURBED-ACREAGE 40
TABLE 3-9: MAXIMUM DAILY LOCALIZED CONSTRUCTION EMISSIONS THRESHOLDS 43
TABLE 3-10: LOCALIZED CONSTRUCTION-SOURCE EMISSIONS – WITHOUT MITIGATION (1 OF 2) 43
TABLE 3-10: LOCALIZED CONSTRUCTION-SOURCE EMISSIONS – WITHOUT MITIGATION (2 OF 2) 44
TABLE 3-11: LOCALIZED CONSTRUCTION-SOURCE EMISSIONS – WITH MITIGATION 45
TABLE 3-12: CO MODEL RESULTS 46
TABLE 3-13: TRAFFIC VOLUMES 47

LIST OF ABBREVIATED TERMS

%	Percent
°F	Degrees Fahrenheit
(1)	Reference
µg/m^3	Microgram per Cubic Meter
1992 CO Plan	*1992 Federal Attainment Plan for Carbon Monoxide*
1993 CEQA Handbook	SC*AQMD's CEQA Air Quality Handbook (1993)*
2016-2040 RTP/SCS	*2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*
AB 2595	California Clean Air Act
AQIA	Air Quality Impact Analysis
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
BC	Black Carbon
Brief	*Brief of Amicus Curiae by the SCAQMD in the Friant Ranch Case*
C-P-S	Scenic Highway Commercial
C_2H_3Cl	Vinyl Chloride
C_2H_4O	Acetaldehyde
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CEQA Guidelines	*2019 CEQA Statute and Guidelines*
City	City of Wildomar
CO	Carbon Monoxide
COHb	Carboxyhemoglobin
EIR	Environmental Impact Report
EMFAC	EMissions FACtor Model
EPA	Environmental Protection Agency
ETW	Equivalent Test Weight

GHG	Greenhouse Gas
H_2S	Hydrogen Sulfide
HI	Hazard Index
hp	Horsepower
lbs	Pounds
lbs/day	Pounds Per Day
LST	Localized Significance Threshold
LST Methodology	*Final Localized Significance Threshold Methodology*
MICR	Maximum Individual Cancer Risk
MM	Mitigation Measures
mph	Miles Per Hour
MUPA	Mixed-Use Planning Area
MWELO	California Department of Water Resources' Model Water Efficient
N_2	Nitrogen
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
O_2	Oxygen
O_3	Ozone
O_2 Deficiency	Chronic Hypoxemia
ODC	Ozone Depleting Compounds
Pb	Lead
PM_{10}	Particulate Matter 10 microns in diameter or less
$PM_{2.5}$	Particulate Matter 2.5 microns in diameter or less
ppm	Parts Per Million
Project	Wildomar Crossroads
RECLAIM	Regional Clean Air Incentives Market
ROG	Reactive Organic Gases
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
sf	Square Feet
SIPs	State Implementation Plans
SO_2	Sulfur Dioxide
SO_4	Sulfates

SO_X	Sulfur Oxides
SOREs	Small Off-Road Engines
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
Title 24	California Building Code
TITLE I	Non-Attainment Provisions
TITLE II	Mobile Sources Provisions
VOC	Volatile Organic Compounds
vph	Vehicles Per Hour

This page intentionally left blank

EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Wildomar Crossroads Air Quality Impact Analysis* (AQIA) are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines* (*CEQA Guidelines*) (1). Table ES-1 shows the findings of significance for each potential air quality impact under CEQA before and after any required mitigation measures (MM) described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Regional Construction Emissions	3.4	*Less Than Significant*	*n/a*
Localized Construction Emissions	3.7	*Potentially Significant*	*Less Than Significant*
Regional Operational Emissions	3.5	*Less Than Significant*	*n/a*
Localized Operational Emissions	3.8	*Less Than Significant*	*n/a*
CO "Hot Spot" Analysis	3.9	*Less Than Significant*	*n/a*
Air Quality Management Plan	3.10	*Potentially Significant*	*Less Than Significant*
Sensitive Receptors	3.11	*Less Than Significant*	*n/a*
Odors	3.12	*Less Than Significant*	*n/a*
Cumulative Impacts	3.13	*Potentially Significant*	*Less Than Significant*

ES.2 REGULATORY REQUIREMENTS

There are numerous requirements that development projects must comply with by law, and that were put in place by federal, State, and local regulatory agencies for the improvement of air quality.

Any operation or activity that might cause the emission of any smoke, fly ash, dust, fumes, vapors, gases, or other forms of air pollution, which can cause damage to human health, vegetation, or

other forms of property, or can cause excessive soiling on any other parcel shall conform to the requirements of the South Coast Air Quality Management District (SCAQMD).

SCAQMD RULES

SCAQMD Rules that are currently applicable during construction activity for this Project are described below.

SCAQMD RULE 401

A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.

SCAQMD RULE 402

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Odor Emissions. All uses shall be operated in a manner such that no offensive odor is perceptible at or beyond the property line of that use.

SCAQMD RULE 403

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities.

Dust Control, Operations. Any operation or activity that might cause the emission of any smoke, fly ash, dust, fumes, vapors, gases, or other forms of air pollution, which can cause damage to human health, vegetation, or other forms of property, or can cause excessive soiling on any other parcel, shall conform to the requirements of the SCAQMD.

SCAQMD RULE 1113

This rule serves to limit the Volatile Organic Compound (VOC) content of architectural coatings used on projects in the SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects.

SCAQMD RULE 1301

This rule is intended to provide that pre-construction review requirements to ensure that new or relocated facilities do not interfere with progress in attainment of the National Ambient Air Quality Standards (NAAQS), while future economic growth within the SCAQMD is not unnecessarily restricted. The specific air quality goal is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. Rule 1301 also limits emission increases of ammonia, and Ozone Depleting Compounds (ODCs) from new, modified or relocated facilities by requiring the use of Best Available Control Technology (BACT).

SCAQMD RULE 2305

The SCAQMD adopted Rule 2305, the Warehouse Indirect Source Rule, on May 7, 2021. Owners and operators associated with warehouses 100,000 square feet (sf) or larger are required to directly reduce nitrogen oxides (NO_X) and particulate matter emissions, or to otherwise facilitate emission and exposure reductions of these pollutants in nearby communities.

Although the Project would comply with the above regulatory requirements, it should be noted that emission reductions associated with Rules 401, 402, 1301, and 2305 cannot be quantified in the California Emissions Estimator Model (CalEEMod) and are therefore not reflected in the emissions presented herein. Conversely, Rule 403 (Fugitive Dust) (2) and Rule 1113 (Architectural Coatings) (3) can be modeled in CalEEMod. As such, credit for Rule 403 and Rule 1113 have been taken in the analysis.

ES.3 CONSTRUCTION-SOURCE EMISSIONS MMS

MM AQ-1

During the site preparation phase, construction equipment greater than 150 horsepower (hp), the Construction Contractor shall ensure that off-road diesel construction equipment that complies with Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.

MM AQ-2

All actively graded (disturbed) areas within the Project site during site preparation activities shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12 percent (%) in maintained for actively graded areas. Moisture content can be verified with use of a moisture probe by the grading contractor.

This page intentionally left blank

1 INTRODUCTION

This report presents the results of the AQIA prepared by Urban Crossroads, Inc., for the proposed Wildomar Crossroads (Project). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the SCAQMD.

1.1 SITE LOCATION

The proposed Project is located on the northwest corner of Clinton Keith Road and Wildomar Trail, as shown on Exhibit 1-A. The project site has a General Plan Land Use designation of Mixed-Use Planning Area (MUPA) and a zoning designation of Scenic Highway Commercial (C-P-S) with a Mixed-Use Overlay Zone. The area surrounding the Project Site consists of existing single-family residential homes to the north and west, commercial land use and the Oak Springs Ranch Apartment community located to the south, and commercial land uses east of the Project site.

1.2 PROJECT DESCRIPTION

The proposed Project is planned to consist of the following land uses as shown on Exhibit 1-B

- 23,104 square feet (sf) of supermarket land use
- 5,087 sf shops
- 2,750 sf of fast-food restaurant with drive-through window
- 1,133 sf of coffee/donut shop with drive-through window
- 3,348 sf of high-turnover (sit-down) restaurant
- 150 multi-family residential units in 3-story apartment buildings

It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2024.

EXHIBIT 1-A: LOCATION MAP

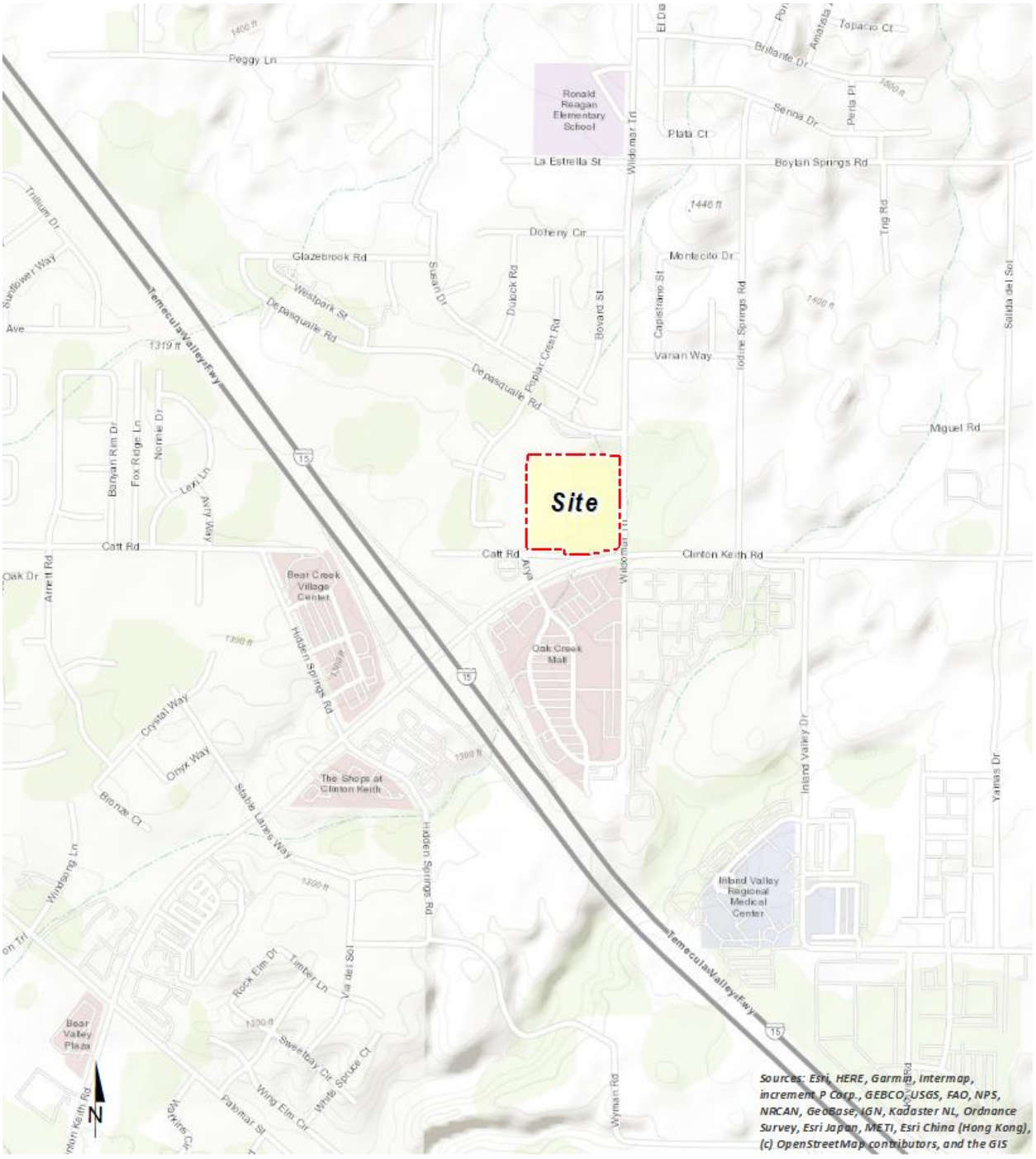
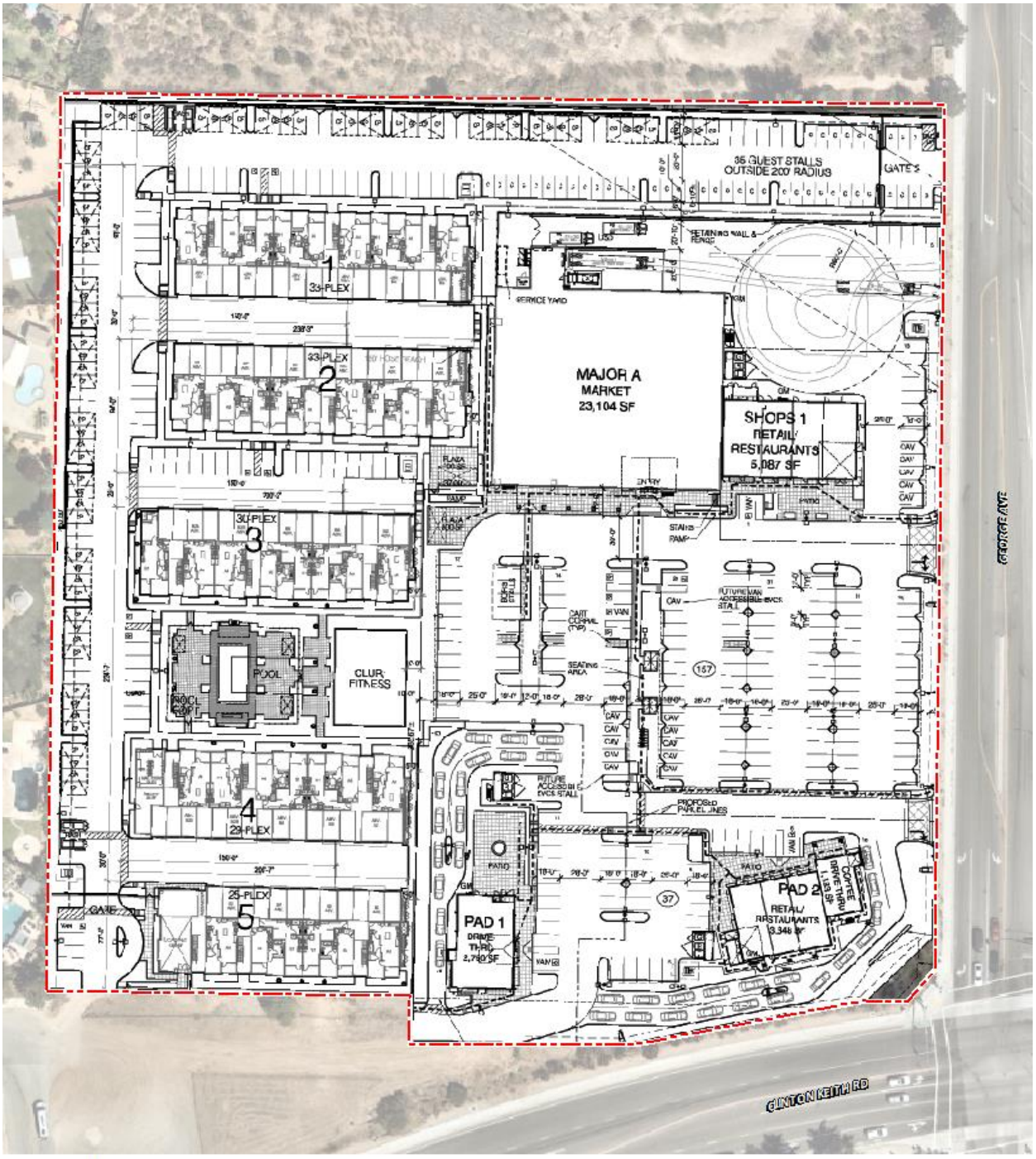


EXHIBIT 1-B: SITE PLAN



LEGEND:

Site Boundary

This page intentionally left blank

2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

2.1 SOUTH COAST AIR BASIN (SCAB)

The Project site is located in the SCAB within the jurisdiction of SCAQMD (4). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As previously stated, the Project site is located within the SCAB, a 6,745-square mile subregion of the SCAQMD, which includes portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bounded by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s degrees Fahrenheit (°F). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71% along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los

Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and on the longest day of the year there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_X and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and

low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

2.4 CRITERIA POLLUTANTS

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified below (5):

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
CO	CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone (O_3), motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen (O_2) supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with O_2 transport and competing with O_2 to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for O_2 supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (O_2 deficiency) as seen at high altitudes.

Criteria Pollutant	Description	Sources	Health Effects
SO_2	SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms SO_4. Collectively, these pollutants are referred to as sulfur oxides (SO_X).	Coal or oil burning power plants and industries, refineries, diesel engines	A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.

Criteria Pollutant	Description	Sources	Health Effects
NO_X	NO_X consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with O_2. Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. NO_X is typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of NO_X compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring station.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of O_3 exposure increases when animals are exposed to a combination of O_3 and NO_2.
O_3	O_3 is a highly reactive and unstable gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O_3 concentrations are generally highest during the summer	Formed when reactive organic gases (ROG) and NO_X react in the presence of sunlight. ROG sources include any source	Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for O_3 effects. Short-term exposure (lasting for a

Criteria Pollutant	Description	Sources	Health Effects
	months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.	that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and storage and pesticides.	few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated O_3 levels are associated with increased school absences. In recent years, a correlation between elevated ambient O_3 levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple outdoor sports and reside in communities with high O_3 levels. O_3 exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes O_3 may be more toxic than exposure to O_3 alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.
Particulate Matter	PM_{10}: A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light	Sources of PM_{10} include road dust, windblown dust and construction. Also formed from other pollutants (acid rain, NO_X, SO_X,	A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of

Criteria Pollutant	Description	Sources	Health Effects
	and consequently the significant reduction air clarity. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. Additionally, it should be noted that PM_{10} is considered a criteria air pollutant. $PM_{2.5}$: A similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include SO_4 formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_X release from power plants, automobiles, and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.	organics). Incomplete combustion of any fuel. $PM_{2.5}$ comes from fuel combustion in motor vehicles, equipment, and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO_X, SO_X, organics).	asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.
VOC	VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not	Organic chemicals are widely used as ingredients in household products. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products.	Breathing VOCs can irritate the eyes, nose, and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health effects, though many have several.

Criteria Pollutant	Description	Sources	Health Effects
	form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably.	Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored.	
ROG	Similar to VOC, ROGs are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms ROG and VOC (see previous) interchangeably.	Sources similar to VOCs.	Health effects similar to VOCs.
Lead (Pb)	Pb is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of Pb in the air was emissions from vehicles burning leaded gasoline. The major sources of Pb emissions are ore and metals processing, particularly Pb smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the	Metal smelters, resource recovery, leaded gasoline, deterioration of Pb paint.	Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure.

Criteria Pollutant	Description	Sources	Health Effects
	Project does not include operational activities such as metal processing or Pb acid battery manufacturing. As such, the Project is not anticipated to generate a quantifiable amount of Pb emissions.		Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.
Odor	Odor means the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves (6).	Odors can come from many sources including animals, human activities, industry, natures, and vehicles.	Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

2.5 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. NAAQS and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 2-2 (7).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards. At the time of this AQIA, the most recent state and federal standards were updated by CARB on May 4, 2016, as presented in Table 2-2. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, PM_{10}, and $PM_{2.5}$ do not exceed standards. All others are not to be equaled or exceeded. It should be noted that the three-year period is presented for informational purposes and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the SCAQMD meets the standards set by the EPA or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, CARB has implemented a State Implementation Plan (SIP). The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area (8).

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (1 OF 2)

Ambient Air Quality Standards						
Pollutant	**Averaging Time**	**California Standards** [1]		**National Standards** [2]		
		Concentration [3]	**Method** [4]	**Primary** [3,5]	**Secondary** [3,6]	**Method** [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page …

For more information please call ARB-PIO at (916) 322-2990 — California Air Resources Board (5/4/16)

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (2 OF 2)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

2.6 REGIONAL AIR QUALITY

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants: CO, Pb, O_3, particulate matter (PM_{10} and $PM_{2.5}$), NO_2, and SO_2 which are known as criteria pollutants. The SCAQMD monitors levels of various criteria pollutants at 37 permanent monitoring stations and 5 single-pollutant source Pb air monitoring sites throughout the air district (9). On February 21, 2019, CARB posted the 2018 amendments to the state and national area designations. See Table 2-3 for attainment designations for the SCAB (10). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Unclassifiable/Attainment	Unclassifiable/Attainment
Pb[1]	Attainment	Unclassifiable/Attainment

Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the SCAB
"-" = The national 1-hour O_3 standard was revoked effective June 15, 2005.

2.7 LOCAL AIR QUALITY

The SCAQMD has designated general forecast areas and air monitoring areas (referred to as Source Receptor Areas [SRA]) throughout the district in order to provide Southern California residents about the air quality conditions. The Project site is located within the Elsinore Valley area (SRA 25). Within SRA 25, the Elsinore Valley monitoring station is located approximately 7.9 miles northwest of the Project site and reports air quality statistics for O_3, CO, NO_2, and PM_{10}. As the Elsinore Valley monitoring station does not provide data for $PM_{2.5}$, data from the Saddleback Valley monitoring station located 24.9 miles west of the Projects site will be utilized. It should be noted that data from Saddleback Valley monitoring station was reported in lieu of the Elsinore Valley monitoring station only in instances where data was not available.

The most recent three (3) years of data available is shown on Table 2-4 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Development Site. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2018 through 2020 was obtained from the SCAQMD Air Quality Data Tables (11).

[1] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

Additionally, data for SO_2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations.

TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2018-2020

Pollutant	Standard	Year		
		2018	2019	2020
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.116	0.108	0.130
Maximum Federal 8-Hour Concentration (ppm)		0.095	0.089	0.100
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	16	4	18
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	30	28	52
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	1.1	1.6	0.9
Maximum Federal 8-Hour Concentration	> 20 ppm	0.8	0.7	0.7
NO_2				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.041	0.038	0.044
Annual Federal Standard Design Value		0.009	0.007	0.007
PM_{10}				
Maximum Federal 24-Hour Concentration (µg/m^3)	> 150 µg/m^3	104	93	84
Annual Federal Arithmetic Mean (µg/m^3)		22.4	18.7	22.0
Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m^3	0	0	0
Number of Days Exceeding State 24-Hour Standard	> 50 µg/m^3	9	5	7
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration (µg/m^3)	> 35 µg/m^3	20.80	20.80	35.00
Annual Federal Arithmetic Mean (µg/m^3)	> 12 µg/m^3	8.31	7.11	8.81
Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m^3	0	0	0

ppm = Parts Per Million
µg/m^3 = Microgram per Cubic Meter
Source: Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ was obtained from SCAQMD Air Quality Data Tables.

2.8 REGULATORY BACKGROUND

2.8.1 FEDERAL REGULATIONS

The EPA is responsible for setting and enforcing the NAAQS for O_3, CO, NO_X, SO_2, PM_{10}, and Pb (12). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (13). The CAA also mandates that states submit and implement SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards would be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (14) (15). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. Table 2-3 (previously presented) provides the NAAQS within the SCAB.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_X. NO_X is a collective term that includes all forms of NO_X which are emitted as byproducts of the combustion process.

2.8.2 CALIFORNIA REGULATIONS

CARB

CARB, which became part of the CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO_4, visibility, hydrogen sulfide (H_2S), and vinyl chloride (C_2H_3Cl). However, at this time, H_2S and C_2H_3Cl are not measured at any monitoring stations in the SCAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (16) (12).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;

- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, NO_X, CO and PM_{10}. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

TITLE 24 ENERGY EFFICIENCY STANDARDS AND CALIFORNIA GREEN BUILDING STANDARDS

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that became effective January 1, 2020.

Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction waste and demolition ordinances and defers to them as the ruling guidance provided they establish a minimum 65% diversion requirement.

The code also provides exemptions for areas not served by construction waste and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the California Energy Commission [CEC]) and became effective on January 1, 2020.

The 2019 Title 24 standards would result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the SCAB and across the State of California. For example, the 2019 Title 24 standards require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting requirements for nonresidential buildings.

The CEC anticipates that single-family homes built with the 2019 standards would use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards would use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings (such as the Project) would use approximately 30% less energy due to lighting upgrade requirements (18).

Because the Project would be constructed after January 1, 2019, the 2019 CALGreen standards are applicable to the Project and require, among other items (19):

RESIDENTIAL MANDATORY MEASURES

- Electric vehicle (EV) charging stations. New construction shall comply with Section 4.106.4.1, 4.106.4.2, 4.106.4.3, to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code*, Article 625. (4.106.4).
    - New one- and two-family dwellings and town-houses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.
    - New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1.
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with Sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4.
- Outdoor potable water use in landscape areas. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resource ' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.
- Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:
    - Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
    - Operations and maintenance instructions for the following:
        - Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, EV chargers, water-heating systems and other major appliances and equipment.

  - Roof and yard drainage, including gutter and downspouts.
  - Space conditioning systems, including condensers and air filters.
  - Landscape irrigation systems.
  - Water reuse systems.
- Information from local utility, water and waste recovery providers on methods to future reduce resource consumption, including recycle programs and locations.
- Public transportation and/or carpool options available in the area.
- Educational material on the positive impacts of an interior relative humidity between 30-60% and what methods an occupants may use to maintain the relative humidity level in that range.
- Information about water-conserving landscape and irrigation design and controllers which conserve water.
- Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
- Information about state solar energy and incentive programs available.
- A copy of all special inspection verifications required by the enforcing agency of this code.
- Information from CALFIRE on maintenance of defensible space around residential structures.

- Any installed gas fireplace shall be direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.
- Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the CARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-high Gloss coating, based on its glass, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 CARB, Suggested Control Measure, and the corresponding Flat, Nonflat, Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.

NONRESIDENTIAL MANDATORY MEASURES

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).

- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3).
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8)
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section
- 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor- mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
    - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor portable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (5.303.1.1 and 5.303.1.2).

- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

2.8.3 AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMP to meet the state and federal ambient air quality standards (17). AQMPs are updated regularly to ensure an effective reduction in emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 3.10.

This page intentionally left blank

3 PROJECT AIR QUALITY IMPACT

3.1 INTRODUCTION

This study quantifies air quality emissions generated by construction and operation of the Project and addresses whether the Project conflicts with implementation of the SCAQMD's AQMP and Lead Agency planning regulations. The analysis of Project-generated air emissions determines whether the Project would result in a cumulatively considerable net increase of any criteria pollutant for which the SCAB is in non-attainment under an applicable NAAQS and CAAQS. Additionally, the Project has been evaluated to determine whether the Project would expose sensitive receptors to substantial pollutant concentrations and the impacts of odors. The significance of these potential impacts is described in the following sections.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the *CEQA Guidelines* (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (1):

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The SCAQMD has also developed regional significance thresholds for other regulated pollutants, as summarized at Table 3-1 (18). The SCAQMD's *CEQA Air Quality Significance Thresholds* (April 2019) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

TABLE 3-1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Regional Construction Threshold	Regional Operational Thresholds
NO_X	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Pb	3 lbs/day	3 lbs/day

lbs/day = Pounds Per Day

3.3 MODELS EMPLOYED TO ANALYZE AIR QUALITY

3.3.1 CALEEMOD

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

In May 2021, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2020.4.0. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from MMs (19). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendices 3.1 through 3.4.

3.4 CONSTRUCTION EMISSIONS

Construction activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

DEMOLITION ACTIVITIES

The site is currently developed with an existing 1,434 sf building which will be demolished and hauled off-site.

GRADING ACTIVITIES

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called “fugitive emissions”. Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. The Project will need to export 38,761 cubic yards of material.

OFF-SITE UTILITY AND INFRASTRUCTURE IMPROVEMENTS

Off-site utility and infrastructure improvements would occur. However, at this time, a specific schedule is unknown. Impacts associated with these expected activities are not expected to

exceed the emissions identified for Project-related construction activities. As such, no impacts beyond what has already been identified in this report are expected to occur.

ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, and vendors commuting to and from the site. The number of workers, hauling, and vendor trips are presented below in Table 3-2.

TABLE 3-2: CONSTRUCTION TRIP ASSUMPTIONS

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Total Hauling Trips
Demolition	15	4	7
Site Preparation	18	2	0
Grading	15	4	4,845
Building Construction	218	43	0
Paving	15	4	0
Architectural Coating	44	4	0

3.4.1 CONSTRUCTION DURATION

Construction is anticipated to begin in December 2022 and will last through February 2024. The construction schedule utilized in the analysis, shown in Table 3-3, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent[2]. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (1).

TABLE 3-3: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Days
Demolition	12/01/2022	12/28/2022	20
Site Preparation	12/29/2022	01/11/2023	10
Grading	01/12/2023	02/08/2023	20
Building Construction	02/09/2023	12/27/2023	230
Paving	12/28/2023	01/24/2024	20
Architectural Coating	01/25/2024	02/21/2024	20

Source: Construction schedule based on CalEEMod default parameters.

[2] As shown in the CalEEMod User's Guide Version 2020.4.0, Section 4.3 "Off-Road Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

3.4.2 CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-4 will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

TABLE 3-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment[1]	Amount	Hours Per Day
Demolition	Concrete/Industrial Saws	1	8
	Excavators	3	8
	Rubber Tired Dozers	2	8
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	3	8
	Excavators	1	8
	Graders	1	8
	Rubber Tired Dozers	1	8
Building Construction	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	3	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

Source: Construction equipment based on CalEEMod default parameters.

[1] In order to account for fugitive dust emissions, Crawler Tractors were used in lieu of Tractors/Loaders/Backhoes.

3.4.3 CONSTRUCTION EMISSIONS SUMMARY

IMPACTS WITHOUT MITIGATION

CalEEMod calculates maximum daily emissions for summer and winter periods. The estimated maximum daily construction emissions without mitigation are summarized on Table 3-5. Detailed construction model outputs are presented in Appendix 3.1. Under the assumed scenarios, emissions resulting from the Project construction will not exceed criteria pollutant thresholds established by the SCAQMD for emissions of any criteria pollutant.

TABLE 3-5: OVERALL CONSTRUCTION EMISSIONS SUMMARY – WITHOUT MITIGATION

Year	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
2022	4.55	50.48	21.26	0.06	10.87	6.07
2023	3.89	53.02	25.89	0.18	10.46	5.70
2024	49.80	9.69	15.19	0.02	0.66	0.48
Winter						
2022	4.54	50.48	21.15	0.06	10.87	6.07
2023	3.89	54.47	24.40	0.18	10.46	5.70
2024	49.79	9.69	15.10	0.02	0.66	0.48
Maximum Daily Emissions	**49.80**	**54.47**	**25.89**	**0.18**	**10.87**	**6.07**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod unmitigated construction-source emissions are presented in Appendix 3.1

IMPACTS WITH MITIGATION

Mitigation is not needed to reduce estimated maximum daily construction regional emissions, MM AQ-1 and MM AQ-2 would be required to decrease localized emissions (please refer to the subsequent discussions in Section 3.7, Localized Significance – Construction Activity). Detailed construction model outputs are presented in Appendix 3.2. Implementation of this localized emissions MM would further reduce already less-than-significant regional emissions as indicated at Table 3.6.

TABLE 3-6: OVERALL CONSTRUCTION EMISSIONS SUMMARY – WITH MITIGATION

Year	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
2022	2.93	38.17	26.39	0.06	7.45	4.23
2023	3.18	53.02	25.89	0.18	9.35	4.05
2024	49.80	9.69	15.19	0.02	0.66	0.48
Winter						
2022	2.92	38.18	26.26	0.06	7.45	4.23
2023	3.13	54.47	25.37	0.18	9.35	4.05
2024	49.79	9.69	15.10	0.02	0.66	0.48
Maximum Daily Emissions	**49.80**	**54.47**	**26.39**	**0.18**	**9.35**	**4.23**
SCAQMD Regional Threshold	75	100	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod mitigated construction-source emissions are presented in Appendix 3.2

3.5 OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Operational emissions are expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions

3.5.1 AREA SOURCE EMISSIONS

ARCHITECTURAL COATINGS

Over a period of time the buildings that are part of this Project will require maintenance and will therefore produce emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings. The emissions associated with architectural coatings were calculated using CalEEMod.

CONSUMER PRODUCTS

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form ozone and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that as October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross hp (known as small off-road engines [SOREs]) by 2024. For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

3.5.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria pollutant emissions from offsite generation of electricity are generally excluded from the evaluation of significance and only natural gas use is considered. The emissions associated with natural gas use were calculated using CalEEMod.

3.5.3 MOBILE SOURCE EMISSIONS

The Project related operational air quality emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site and truck trips associated with the proposed uses. Trip characteristics available from the *Wildomar Crossroads Traffic Impact Analysis* were utilized in this analysis (20).

It should be noted that CalEEMod has different trip rates for different days of the week. In order to accurately determine mobile-source emission from vehicle activity generated by the proposed Project, the CalEEMod default trip rates were adjusted for weekday, Saturday, and Sunday utilizing the trip rates used in this analysis are based on the trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021).

TRIP LENGTH

Due to the predominately retail nature of the Project (supermarket, shops, fast-food restaurant with drive-thru, coffee/donut shop with drive-thru, and high-turnover (sit down) restaurant), the Project's location, a substantial amount of residential land uses within a 2-mile radius of the Project site, and other retail uses located in the Project vicinity, an average trip length for customers of 2 miles was used in the assessment as opposed to the 8.4-mile model default trip length value. As evaluated in the *Wildomar Crossroads Traffic Impact Analysis*, the Project consists of a mixed-use development which tend to shorten vehicle trips. As such, since the Project contains mixed-uses and is surrounded by residential land uses, the adjustments to the CalEEMod default trip length for retail land uses are substantiated. CalEEMod defaults for trip length were utilized for the Multifamily Housing (Mid-Rise) portion of the Project.

FUGITIVE DUST RELATED TO VEHICULAR TRAVEL

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of break and tire wear particulates. The emissions estimate for travel on paved roads were calculated using CalEEMod.

3.5.4 OPERATIONAL EMISSIONS SUMMARY

As previously stated, CalEEMod utilizes summer and winter EMFAC2017 emission factors in order to derive vehicle emissions associated with Project operational activities, which vary by season. The estimated operational-source emissions are summarized on Tables 3-7. Detailed operation model outputs for the Project are presented in Appendix 3.4. As shown on Table 3-7, the Project's daily regional emissions from on-going operations will not exceed any of the thresholds of significance.

TABLE 3-7: SUMMARY OF PEAK OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Area Source	4.20	2.63	13.49	0.02	0.27	0.27
Energy Source	0.14	1.20	0.78	7.38E-03	0.09	0.09
Mobile Source	14.43	11.31	76.97	0.13	12.71	3.47
Total Maximum Daily Emissions	**18.76**	**15.14**	**91.24**	**0.16**	**13.07**	**3.83**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Winter						
Area Source	4.20	2.63	13.49	0.02	0.27	0.27
Energy Source	0.14	1.20	0.78	7.38E-03	0.09	0.09
Mobile Source	11.48	11.99	73.96	0.12	12.71	3.47
Total Maximum Daily Emissions	**15.81**	**15.82**	**88.23**	**0.15**	**13.07**	**3.83**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod operational-source emissions are presented in Appendix 3.4.

3.6 LOCALIZED SIGNIFICANCE

BACKGROUND ON LST DEVELOPMENT

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (LST Methodology). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the

federal and/or state ambient air quality standards (NAAQS/CAAQS). Collectively, these are referred to as Localized Significance Thresholds (LSTs).

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[3]. LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the *LST Methodology* (21).

APPLICABILITY OF LSTS FOR THE PROJECT

For this Project, the appropriate SRA for the LST analysis is the SCAQMD Elsinore Valley (SRA 25). LSTs apply to CO, NO_2, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size.

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

- Identify the maximum daily on-site emissions that will occur during construction activity:
    - The maximum daily on-site emissions could be based on information provided by the Project Applicant; or
    - The SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* and CalEEMod User's Guide *Appendix A: Calculation Details for CalEEMod* can be used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod (22) (23).
- If the total acreage disturbed is less than or equal to 5 acres per day, then the SCAQMD's screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in lbs/day that can be compared to CalEEMod outputs.
- If the total acreage disturbed is greater than 5 acres per day, then LST impacts may still be conservatively evaluated using the LST look-up tables for a 5-acre disturbance area. Use of the 5-acre disturbance area thresholds can be used to show that even if the daily emissions from all construction activity were emitted within a 5-acre area, and therefore concentrated over a smaller area which would result in greater site adjacent concentrations, the impacts would still be less than significant if the applicable 5-acre thresholds are utilized.

[3] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

- The *LST Methodology* presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds.

EMISSIONS CONSIDERED

Based on SCAQMD's *LST Methodology*, emissions for concern during construction activities are on-site NO_X, CO, $PM_{2.5}$, and PM_{10}. The *LST Methodology* clearly states that "off-site mobile emissions from the Project should not be included in the emissions compared to LSTs (24)." As such, for purposes of the construction LST analysis, only emissions included in the CalEEMod "on-site" emissions outputs were considered.

MAXIMUM DAILY DISTURBED-ACREAGE

The "acres disturbed" for analytical purposes are based on specific equipment type for each subcategory of construction activity and the estimated maximum area a given piece of equipment can pass over in an 8-hour workday (as shown on Table 3-8). The equipment-specific grading rates are summarized in the SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* and CalEEMod User's Guide *Appendix A: Calculation Details for CalEEMod* (22) (25). It The disturbed area per day is representative of a piece of equipment making multiple passes over the same land area. In other words, one Rubber Tired Dozer can make multiple passes over the same land area totaling 0.5 acres in a given 8-hour day. Based on Table 3-8, the Project's construction activities could actively disturb approximately 1.0 acre per day during demolition, 3.5 acres per day during site preparation, and 2.5 acres per day during grading activities.

It should be noted that in CalEEMod, the Total Acres Graded (TAG) field represents the cumulative distance traversed on the property by the grading equipment. In order to properly grade a piece of land, multiple passes with grading equipment may be required. So even though the lot size is a fixed number of acres, the TAG could be an order of magnitude higher than the footprint of the lot (25). Total Acres Graded (TAG) is a function of the maximum acreage disturbed per day times the number of days of the subphase of construction. As such, the TAG field in CalEEMod has been revised to 35 acres (3.5 acres per day x 10 days) for site preparation and 50 acres (2.5 acres per day x 20 days) for grading.[4]

[4] CalEEMod does not provide a "Total Acres Graded" field for Demolition, Building Construction, Paving, or Architectural Coating activities.

TABLE 3-8: MAXIMUM DAILY DISTURBED-ACREAGE

Construction Activity	Equipment Type	Equipment Quantity	Acres graded per 8-hour day	Operating Hours per Day	Acres graded per day
Demolition	Rubber Tired Dozers	2	0.5	8	1.0
Total acres disturbed per day during Demolition					1.0
Site Preparation	Crawler Tractors	4	0.5	8	2.0
	Rubber Tired Dozers	3	0.5	8	1.5
Total acres disturbed per day during Site Preparation					3.5
Grading	Crawler Tractors	3	0.5	8	1.5
	Graders	1	0.5	8	0.5
	Rubber Tired Dozers	1	0.5	8	0.5
Total acres disturbed per day during Grading					2.5

Source: Maximum daily disturbed acreage based on equipment list presented in Appendix 3.1.

RECEPTORS

As previously stated, LSTs represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQS at the nearest residence or sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from Project activities.

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, and individuals with pre-existing respiratory or cardiovascular illness. Structures that house these persons or places where they gather are defined as "sensitive receptors". These structures typically include uses such as residences, hotels, and hospitals where an individual can remain for 24 hours. Consistent with the LST Methodology, the nearest land use where an individual could remain for 24 hours to the Project site (in this case the West Valley Detention Center) has been used to determine construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$, since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time.

LSTs apply, even for non-sensitive land uses, consistent with *LST Methodology* and SCAQMD guidance. Per the *LST Methodology*, commercial and industrial facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for 8 hours or less. However, *LST Methodology* explicitly states that "*LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours* (24)." Therefore, any adjacent land use where an individual could remain for 1 or 8-hours, that is located at a closer distance to the Project site than the receptor used for PM_{10} and $PM_{2.5}$ analysis, must be considered to determine construction and operational LST air impacts for emissions of NO_2 and CO since these pollutants have an averaging time of 1 and 8-hours.

RECEPTORS

Receptors in the relative to Project area are described below and shown on Exhibit 3-A. Localized air quality impacts were evaluated at receptor land uses nearest the Project site. All distances are measured from the Project site boundary to the outdoor living areas (e.g., backyards) or at the building façade, whichever is closer to the Project site.

R1: Location R1 represents existing residence at 35816 Poplar Crest Road, approximately 100 feet northwest of the Project site. Receptor R1 is placed in the private outdoor living areas (backyards) facing the Project site.

R2: Location R2 represents existing residence at 35925 Susan Drive, approximately 212 feet northeast of the Project site. Receptor R2 is placed in the private outdoor living areas (backyards) facing the Project site.

R3: Location R3 represents the B&K Dreamy Nails & Spa salon located at 24088 Clinton Keith Road, approximately 200 feet east of the Project site. Receptor R3 is placed at the building façade.

R4: Location R4 represents existing Oak Springs Ranch at 24055 Clinton Keith Road, approximately 204 feet southeast of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receptor R4 is placed at the building façade facing the Project site.

R5: Location R5 represents the Teakwoods Bar vs. Grill restaurant located at 23971 Clinton Keith Road, approximately 200 feet southwest of the Project site.

R6: Location R6 represents existing residence at 23849 Lancer Court, approximately 19 feet west of the Project site. Receptor R6 is placed in the private outdoor living areas (backyards) facing the Project site.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual a cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the Project site has been used to determine localized construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$ (since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time). The nearest receptor used for evaluation of localized impacts of PM_{10} and $PM_{2.5}$ is represented by location R6 which represents the existing residence at 23849 Lancer Court, approximately 19 feet (6 meters) west of the Project site.

As previously stated, and consistent with *LST Methodology*, the nearest industrial/commercial use to the Project site is used to determine construction and operational LST air impacts for emissions of NO_X and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assumed that an individual could be present at these sites for periods of one to 8 hours. It should be noted that the existing residence (R6) is located at a closer distance than the nearest industrial/commercial use. As such, same receptor will be used for evaluation of localized NO_X and CO.

EXHIBIT 3-A: SENSITIVE RECEPTOR LOCATIONS



It should be noted that the *LST Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters* (26)." As such a 25-meter receptor distance will be used for evaluation of localized PM_{10}, $PM_{2.5}$, NO_2, and CO.

3.7 CONSTRUCTION-SOURCE EMISSIONS LST ANALYSIS

3.7.1 LOCALIZED THRESHOLDS FOR CONSTRUCTION ACTIVITY

Since the total acreage disturbed is less than five acres per day for site preparation and grading activities, the SCAQMD's screening look-up tables are utilized in determining impacts. Consistent with SCAQMD guidance, the thresholds presented in Table 3-9 were calculated by interpolating the threshold values for the Project's disturbed acreage.

TABLE 3-9: MAXIMUM DAILY LOCALIZED CONSTRUCTION EMISSIONS THRESHOLDS

Construction Activity	Construction Localized Thresholds			
	NO_X	CO	PM_{10}	PM_{10}
Demolition	162 lbs/day	750 lbs/day	4 lbs/day	3 lbs/day
Site Preparation	303 lbs/day	1,533 lbs/day	10 lbs/day	6 lbs/day
Grading	257 lbs/day	1,244 lbs/day	8 lbs/day	5 lbs/day

Source: Localized Thresholds presented in this table are based on the SCAQMD Final LST Methodology, July 2008

3.7.2 CONSTRUCTION-SOURCE LOCALIZED EMISSIONS

IMPACTS WITHOUT MITIGATION

Table 3-10 identifies the localized impacts at the nearest receptor location in the vicinity of the Project. Without mitigation, localized construction emissions would not exceed the applicable SCAQMD LSTs for emissions of any criterial pollutant. Outputs from the model runs for unmitigated construction LSTs are provided in Appendix 3.1.

TABLE 3-10: LOCALIZED CONSTRUCTION-SOURCE EMISSIONS – WITHOUT MITIGATION (1 OF 2)

Construction Activity	Year	Emissions (lbs/day)			
		NO_X	CO	PM_{10}	$PM_{2.5}$
Demolition	2022	25.72	20.59	1.27	1.16
	Maximum Daily Emissions	**25.72**	**20.59**	**1.27**	**1.16**
	SCAQMD Localized Threshold	162	750	4	3
	Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

TABLE 3-10: LOCALIZED CONSTRUCTION-SOURCE EMISSIONS – WITHOUT MITIGATION (2 OF 2)

Construction Activity	Year	Emissions (lbs/day)			
		NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation	2022	50.35	19.98	10.65	6.01
	2023	41.82	18.27	10.25	5.64
	Maximum Daily Emissions	**50.35**	**19.98**	**10.65**	**6.01**
	SCAQMD Localized Threshold	303	1,533	10	6
	Threshold Exceeded?	**NO**	**NO**	**YES**	**YES**
Grading	2023	28.66	14.77	4.62	2.47
	Maximum Daily Emissions	**28.66**	**14.77**	**4.62**	**2.47**
	SCAQMD Localized Threshold	257	1,244	8	5
	Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Source: CalEEMod unmitigated localized construction-source emissions are presented in Appendix 3.1.

IMPACTS WITH MITIGATION

The following MMs would be required to reduce project related construction emission below the LST for PM_{10} and $PM_{2.5}$ during site preparation.

MM AQ-1

During the site preparation phase, construction equipment greater than 150 hp, the Construction Contractor shall ensure that off-road diesel construction equipment that complies with EPA/CARB Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.

MM AQ-2

All actively graded (disturbed) areas within the Project site during site preparation activities shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12% in maintained for actively graded areas. Moisture content can be verified with use of a moisture probe by the grading contractor

As shown on Table 3-11, after implementation of MM AQ-1 and MM AQ-2, construction emissions would not exceed the applicable SCAQMD LSTs for any criteria pollutant. Therefore, a less than significant impact would occur. It should be noted that as this mitigation measure is not applicable to demolition or grading activities, emissions from demolition and grading activities have been omitted from the "Impacts with Mitigation" results.

TABLE 3-11: LOCALIZED CONSTRUCTION-SOURCE EMISSIONS – WITH MITIGATION

Construction Activity	Year	Emissions (lbs/day)			
		NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation	2022	38.04	25.64	7.23	4.17
	2023	34.03	24.81	7.04	3.99
	Maximum Daily Emissions	**38.04**	**25.64**	**7.23**	**4.17**
	SCAQMD Localized Threshold	303	1,533	10	6

Source: CalEEMod mitigated localized construction-source emissions are presented in Appendix 3.4.

3.8 OPERATIONAL-SOURCE EMISSIONS LST ANALYSIS

As previously stated, the total development is proposed to consist of a 23,104-sf supermarket, a 2,750-sf fast-food restaurant with drive-through window, 5,087-sf of retail/restaurants, a 1,133-sf coffee/donut shop with drive-through window, a 3,348-sf of high-turnover (sit-down) restaurant, and 150 multi-family residential units in 3-story apartment buildings. According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project, if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The proposed project does not include such uses, and thus, due to the lack of significant stationary source emissions, no long-term localized significance threshold analysis is needed.

3.9 CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment.

To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 3-12.

TABLE 3-12: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)		
	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations
Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (*1992 CO Plan*), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (27). In contrast, an adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

The ambient 1-hr and 8-hr CO concentration within the Project study area is estimated to be 0.9 ppm and 0.7 ppm, respectively (data from Elsinore Valley station for 2020). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (28). Traffic volumes generating the CO concentrations for the "hot spot" analysis is shown on Table 3-13. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively (27). The *2003 AQMP* estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm)[5].

[5] Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm)

TABLE 3-13: TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Boulevard/Highland Avenue	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374
La Cienega Boulevard/Century Boulevard	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Boulevard/Imperial Highway	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

Source: 2003 AQMP

3.10 AQMP

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In March 2017, the SCAQMD released the *Final 2016 AQMP* (*2016 AQMP*). The *2016 AQMP* continues to evaluate current integrated strategies and control measures to meet the NAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (29). Similar to the 2012 AQMP, the *2016 AQMP* incorporates scientific and technological information and planning assumptions, including the *2016-2040 RTP/SCS*, a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements (17). The Project's consistency with the AQMP will be determined using the *2016 AQMP* as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the *1993 CEQA Handbook* (30). These indicators are discussed below:

3.10.1 CONSISTENCY CRITERION NO. 1

The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion 1

Consistency Criterion No. 1 refers to violations of the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if LSTs or regional significance thresholds were exceeded. As evaluated, the Project's regional and localized construction-source emissions would not exceed applicable regional significance threshold and LST thresholds after implementation of MM AQ-1 and MM AQ-2. As such, a less than significant impact is expected.

Operational Impacts – Consistency Criterion 1

As evaluated, the Project would not exceed the applicable regional and localized significance thresholds for operational activity. Therefore, the Project would not conflict with the AQMP according to this criterion.

On the basis of the preceding discussion, the Project is determined to be consistent with the first criterion.

3.10.2 CONSISTENCY CRITERION NO. 2

The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The *2016 AQMP* demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in City of Wildomar General Plan is considered to be consistent with the AQMP***.***

Construction Impacts – Consistency Criterion 2

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities. As such, when considering that no regional or localized emissions thresholds will be exceeded, a less than significant impact would result.

Operational Impacts – Consistency Criterion 2

Per the City of Wildomar's General Plan, the Project site is designated for MUPA uses. The MUPA land use designation is intended to reflect mixed use areas. The intent of the designation is not to identify a particular mixture or intensity of land uses, but to designate areas where a mixture of residential, commercial, office, entertainment, educational, and/or recreational uses, or other uses is planned. Many of the MUPAs are located in specific plans. In the future, these areas may be appropriate candidates for the Community Center designation. In order for the Community Center designation to be considered, the project proponent is required to file a specific plan or a specific plan amendment, wherein issues relating to density, traffic, provision of transit services, compatibility with other nearby land uses, fiscal impacts, and other issues relating to the viability of the Community Center proposal are addressed and resolved (31).

The proposed Project will consist of a 23,104-sf supermarket, a 2,750-sf fast-food restaurant with drive-through window, 5,087-sf of retail/restaurants, a 1,133-sf coffee/donut shop with drive-through window, a 3,348-sf of high-turnover (sit-down) restaurant, and 150 multi-family residential units in 3-story apartment buildings. As such, the Project uses are consistent with uses allowed under the MUPA designation. Furthermore, the Project, as evaluated herein would not exceed the regional or localized air quality significance thresholds.

On the basis of the preceding discussion, the Project is determined to be consistent with the second criterion.

AQMP CONSISTENCY CONCLUSION

The Project would not have the potential to result in or cause NAAQS or CAAQS violations. Additionally, the proposed Project is consistent with the land use designation reflected in the General Plan. Furthermore, the Project would not exceed any applicable regional or local thresholds. As such, the Project is therefore considered to be consistent with the AQMP.

3.11 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Results of the LST analysis indicate that the Project will not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Additionally, the Project will not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

3.11.1 FRIANT RANCH CASE

In December 2018, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, the California Supreme Court held that an EIR air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided.

As discussed in briefs filed in the Friant Ranch case, correlating a project's criteria air pollutant emissions to specific health impacts is challenging. The SCAQMD, which has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, and thus it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with specific health outcomes (32) noted that it may be "difficult to quantify health impacts for criteria pollutants." SCAQMD used O_3 as an example of why it is impracticable to determine specific health outcomes from criteria pollutants for all but very large, regional-scale projects. First, forming O_3 "takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources." (SCAQMD, 2015a, p. 11) Second, "it takes a large amount of additional precursor emissions (NO_X and VOCs) to cause a modeled increase in ambient ozone levels over an entire region," with a 2012 study showing that "reducing NO_X by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion." (SCAQMD, 2015a, pp. 12-14)

SCAQMD concluded that it "does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects." (SCAQMD, 2015a, pp. 12-14) The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) ties the difficulty of correlating the emission of criteria pollutants to health impacts to how ozone and particulate matter are formed, stating that "[b]ecause of the complexity of ozone formation, a specific tonnage amount of NO_X or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area." (SJVUAPCD, 2015, p. 4) Similarly, the tonnage of particulate matter "emitted does not always equate to the local particulate matter concentration because it can be transported long distances by wind," and "[s]econdary particulate matter, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SO_X) and NO_X," meaning that "the tonnage of particulate matter -forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary particulate matter in that area." (SJVUAPCD, 2015, p. 5) The disconnect between the amount of precursor pollutants and the concentration of ozone or particulate matter formed makes it difficult to determine potential health impacts, which are related to the concentration of ozone and particulate matter experienced by the receptor rather than levels of NO_X, SO_X, and VOCs produced by a source.

Most local agencies lack the data to do their own assessment of potential health impacts from criteria air pollutant emissions, as would be required to establish customized, locally specific thresholds of significance based on potential health impacts from an individual development project. The use of national or "generic" data to fill the gap of missing local data would not yield accurate results because such data does not capture local air patterns, local background conditions, or local population characteristics, all of which play a role in how a population experiences air pollution. Because it is impracticable to accurately isolate the exact cause of a human disease (for example, the role a particular air pollutant plays compared to the role of other allergens and genetics in cause asthma), existing scientific tools cannot accurately estimate health impacts of the Project's air emissions without undue speculation. Instead, readers are directed to the Project's air quality impact analysis above, which provides extensive information

concerning the quantifiable and non-quantifiable health risks related to the Project's construction and long-term operation.

The LST analysis above determined that the Project would not result in emissions exceeding SCAQMD's LSTs. Therefore, the proposed Project would not be expected to exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$.

As the Project's emissions will comply with federal, state, and local air quality standards, the proposed Project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a basin-wide level and would not provide a reliable indicator of health effects if modeled.

3.12 ODORS

The potential for the Project to generate objectionable odors has also been considered. Land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed Project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the solid waste regulations. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction and operations would be less than significant and no mitigation is required (33).

3.13 CUMULATIVE IMPACTS

As previously shown in Table 2-3, the CAAQS designate the Project site as nonattainment for O_3 PM_{10}, and $PM_{2.5}$ while the NAAQS designates the Project site as nonattainment for O_3 and $PM_{2.5}$.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (34). In this report the SCAQMD clearly states (Page D-3):

> *"…the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the HI[6] significance threshold for TAC[7] emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.*
>
> *Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."*

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which SCAB is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

CONSTRUCTION IMPACTS

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project construction-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

[6] HI = Hazard Index

[7] TAC = Toxic Air Contaminants

OPERATIONAL IMPACTS

The Project-specific evaluation of emissions presented in the preceding analysis demonstrates that proposed Project operational-source air pollutant emissions would not result in exceedances of regional thresholds. Therefore, proposed Project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

This page intentionally left blank

4 REFERENCES

1. **State of California.** *2020 CEQA California Environmental Quality Act.* 2020.
2. **South Coast Air Quality Management District.** RULE 403. FUGITIVE DUST. [Online] https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-403.pdf?sfvrsn=4.
3. —. RULE 1113. Architectural Coatings. [Online] http://www.aqmd.gov/docs/default-source/rule-book/reg-xi/r1113.pdf.
4. —. Southern California Air Basins. [Online] https://www.arb.ca.gov/msprog/onroad/porttruck/maps/scabc7map.pdf.
5. —. *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning.* 2005.
6. **St. Croix Sensory, Inc.** *The "Gray Line" Between Odor Nuisance and Health Effects.* 2000.
7. **California Air Resources Board.** Ambient Air Quality Standards (AAQS). [Online] 2016. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.
8. **United State Environmental Protection Agency.** Frequent Questions about General Conformity . *EPA.* [Online] https://www.epa.gov/general-conformity/frequent-questions-about-general-conformity#8.
9. **South Coast Air Quality Management District.** Annual Air Quality Monitoring Network Plan. [Online] July 2018. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-monitoring-network-plan/annual-air-quality-monitoring-network-plan-v2.pdf?sfvrsn=2.
10. **Air Resources Board.** State and National Ambient Air Quality Standards. [Online] https://www.arb.ca.gov/regact/2019/stateareadesignations/appc.pdf?_ga=2.169398369.1537615702.1554741141-1192937971.1505156621.
11. **District, South Coast Air Quality Management.** Air Quality Data Tables. [Online] https://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year.
12. **Environmental Protection Agency.** National Ambient Air Quality Standards (NAAQS). [Online] 1990. https://www.epa.gov/environmental-topics/air-topics.
13. —. Air Pollution and the Clean Air Act. [Online] http://www.epa.gov/air/caa/.
14. **United States Environmental Protection Agency.** 1990 Clean Air Act Amendment Summary: Title I. [Online] https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-i.
15. —. 1990 Clean Air Act Amendment Summary: Title II. [Online] https://www.epa.gov/clean-air-act-overview/1990-clean-air-act-amendment-summary-title-ii.
16. **Air Resources Board.** California Ambient Air Quality Standards (CAAQS). [Online] 2009. [Cited: April 16, 2018.] http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm.
17. **Southern California Association of Governments.** 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. [Online] April 2016. http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf.
18. **South Coast Air Quality Management District (SCAQMD).** SCAQMD Air Quality Significance Thresholds. [Online] http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2.
19. **California Air Pollution Control Officers Association (CAPCOA).** California Emissions Estimator Model (CalEEMod). [Online] September 2016. www.caleemod.com.

20. **EPD Solutions, Inc.** *Wildomar Crossroads Traffic Impact Analysis.* 2022.
21. **Lake Environmental.** US EPA Models. *Lake Environmental.* [Online] http://www.weblakes.com/download/us_epa.html.
22. **South Coast Air Quality Management District.** Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. [Online] http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf.
23. **California Air Pollution Control Officers Association (CAPCOA).** Appendix A: Calculation Details for CalEEMod. *CalEEMod.* [Online] October 2017. http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6.
24. **South Coast Air Quality Management District.** *Localized Significance Thresholds Methodology.* s.l. : South Coast Air Quality Managment District, 2008.
25. **California Air Pollution Control Officers Association (CAPCOA).** Appendix A: Calculation Details for CalEEMod. *CalEEMod.* [Online] October 2017. http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6.
26. **South Coast Air Quality Management District.** *Localized Significance Thresholds Methodology.* s.l. : South Coast Air Quality Managment District, 2003.
27. —. 2003 Air Quality Management Plan. [Online] 2003. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2003-aqmp.
28. **Bay Area Air Quality Management District.** [Online] http://www.baaqmd.gov/.
29. **South Coast Air Quality Management District.** Final 2016 Air Quality Management Plan (AQMP). [Online] March 2017. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=11.
30. **South coast Air Quality Management District.** *CEQA Air Quality Handbook (1993).* 1993.
31. **County of Riverside/City of Wildomar.** *County of Riverside/City of Wildomar General Plan.* 2003.
32. **South Coast Air Quality Management District.** Sierra Club, Revive the San Joaquin and League of Women Voters of Fresno, Plaintiffs and Appellants, v. County of Fresno, Defendant and Respondent and, Friant Ranchm L.P. Real Party in Interest and Respondent. [Online] 2015. https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf.
33. —. RULE 402 NUISANCE. [Online] http://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-402.pdf.
34. **Goss, Tracy A and Kroeger, Amy.** White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. [Online] South Coast Air Quality Management District, 2003. http://www.aqmd.gov/rules/ciwg/final_white_paper.pdf.

This page intentionally left blank

5 CERTIFICATIONS

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Wildomar Crossroads. The information contained in this air quality impact assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com

Haseeb Qureshi
Associate Principal
URBAN CROSSROADS, INC.
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – CARB • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

This page intentionally left blank

APPENDIX 2.1:

STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS

APPENDIX C

MAPS AND TABLES OF AREA DESIGNATIONS FOR STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

[This page intentionally left blank]

APPENDIX C

MAPS AND TABLES OF AREA DESIGNATIONS FOR STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

This attachment fulfills the requirement of Health and Safety Code section 40718 for CARB to publish maps that identify areas where one or more violations of any State ambient air quality standard (State standard) or national ambient air quality standard (national standard) have been measured. The national standards are those promulgated under section 109 of the federal Clean Air Act (42 U.S.C. 7409).

This attachment is divided into three parts. The first part comprises a table showing the levels, averaging times, and measurement methods for each of the State and national standards. This is followed by a section containing maps and tables showing the area designations for each pollutant for which there is a State standard in the California Code of Regulations, title 17, section 70200. The last section contains maps and tables showing the most current area designations for the national standards.

Ambient Air Quality Standards

(Updated 5/4/16)

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

See footnotes on next page ...

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

[This page intentionally left blank]

Area Designations for the State Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a State standard set forth in the California Code of Regulations, title 17, section 60200. Each area is identified as attainment, nonattainment, nonattainment-transitional, or unclassified for each pollutant, as shown below:

Attainment	A
Nonattainment	N
Nonattainment-Transitional	NA-T
Unclassified	U

In general, CARB designates areas by air basin for pollutants with a regional impact and by county for pollutants with a more local impact. However, when there are areas within an air basin or county with distinctly different air quality deriving from sources and conditions not affecting the entire air basin or county, CARB may designate a smaller area. Generally, when boundaries of the designated area differ from the air basin or county boundaries, the description of the specific area is referenced at the bottom of the summary table.

FIGURE 1


2018
Area Designations for State
Ambient Air Quality Standards
OZONE
N
0 50 100 200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Humboldt
Trinity
Tehema
SACRAMENTO VALLEY
SUTTER BUTTES
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Colusa
Yuba
Placer
Lake
Sutter
LAKE TAHOE
El Dorado
Yolo
Alpine
Sonoma
Napa
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
San Joaquin
Contra Costa
Tuolumne
Mono
San Francisco
Alameda
Mariposa
GREAT BASIN VALLEYS
San Mateo
Stanislaus
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
San Bernardino
Santa Barbara
Los Angeles
MOJAVE DESERT
Ventura
Orange
Riverside
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
Unclassified
Attainment
Nonattainment-Transitional
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 1

California Ambient Air Quality Standards
Area Designations for Ozone (1)

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					NORTHEAST PLATEAU AIR BASIN				X
Alpine County			X		SACRAMENTO VALLEY AIR BASIN				
Inyo County	X				Colusa and Glenn Counties				X
Mono County	X				Sutter/Yuba Counties				
LAKE COUNTY AIR BASIN				X	Sutter Buttes	X			
LAKE TAHOE AIR BASIN				X	Remainder of Sutter County				X
MOJAVE DESERT AIR BASIN	X				Yuba County				X
MOUNTAIN COUNTIES AIR BASIN					Yolo/Solano Counties		X		
Amador County	X				Remainder of Air Basin	X			
Calaveras County	X				SALTON SEA AIR BASIN	X			
El Dorado County (portion)	X				SAN DIEGO AIR BASIN	X			
Mariposa County	X				SAN FRANCISCO BAY AREA AIR BASIN	X			
Nevada County	X				SAN JOAQUIN VALLEY AIR BASIN	X			
Placer County (portion)	X				SOUTH CENTRAL COAST AIR BASIN				
Plumas County			X		San Luis Obispo County	X			
Sierra County			X		Santa Barbara County		X		
Tuolumne County	X				Ventura County	X			
NORTH CENTRAL COAST AIR BASIN		X			SOUTH COAST AIR BASIN	X			
NORTH COAST AIR BASIN				X					

(1) AB 3048 (Olberg) and AB 2525 (Miller) signed into law in 1996, made changes to Health and Safety Code, section 40925.5. One of the changes allows nonattainment districts to become nonattainment-transitional for ozone by operation of law.

FIGURE 2

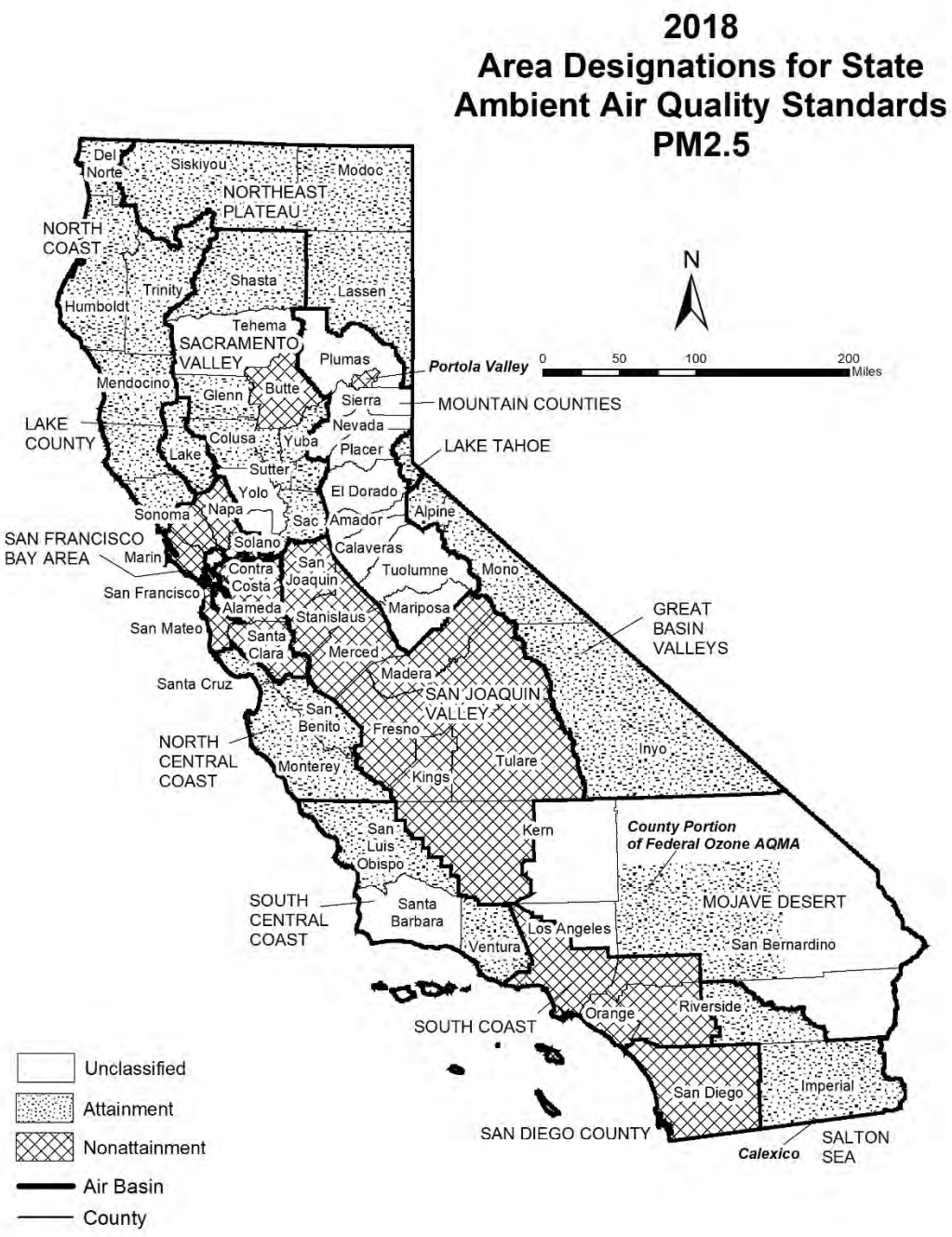

2018
Area Designations for State
Ambient Air Quality Standards
PM10
N
0
50
100
200
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
LAKE COUNTY
Colusa
Yuba
Nevada
Lake
Placer
LAKE TAHOE
Sutter
Yolo
El Dorado
Alpine
Sonoma
Napa
Sac
Amador
Yosemite NP
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
San Francisco
Alameda
Stanislaus
Mariposa
GREAT BASIN VALLEYS
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Monterey
Tulare
Inyo
Kings
San Luis Obispo
Kern
MOJAVE DESERT
Santa Barbara
Los Angeles
San Bernardino
SOUTH CENTRAL COAST
Ventura
Orange
Riverside
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
SALTON SEA
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 2

California Ambient Air Quality Standards
Area Designation for Suspended Particulate Matter (PM10)

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN	X			NORTH CENTRAL COAST AIR BASIN	X		
LAKE COUNTY AIR BASIN			X	NORTH COAST AIR BASIN			
LAKE TAHOE AIR BASIN	X			Del Norte, Sonoma (portion) and Trinity Counties			X
MOJAVE DESERT AIR BASIN	X			Remainder of Air Basin	X		
MOUNTAIN COUNTIES AIR BASIN				NORTHEAST PLATEAU AIR BASIN			
Amador County		X		Siskiyou County			X
Calaveras County	X			Remainder of Air Basin		X	
El Dorado County (portion)	X			SACRAMENTO VALLEY AIR BASIN			
Mariposa County				Shasta County			X
- Yosemite National Park	X			Remainder of Air Basin	X		
- Remainder of County		X		SALTON SEA AIR BASIN	X		
Nevada County	X			SAN DIEGO AIR BASIN	X		
Placer County (portion)	X			SAN FRANCISCO BAY AREA AIR BASIN	X		
Plumas County	X			SAN JOAQUIN VALLEY AIR BASIN	X		
Sierra County	X			SOUTH CENTRAL COAST AIR BASIN	X		
Tuolumne County		X		SOUTH COAST AIR BASIN	X		

FIGURE 3



Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 3

California Ambient Air Quality Standards
Area Designations for Fine Particulate Matter (PM2.5)

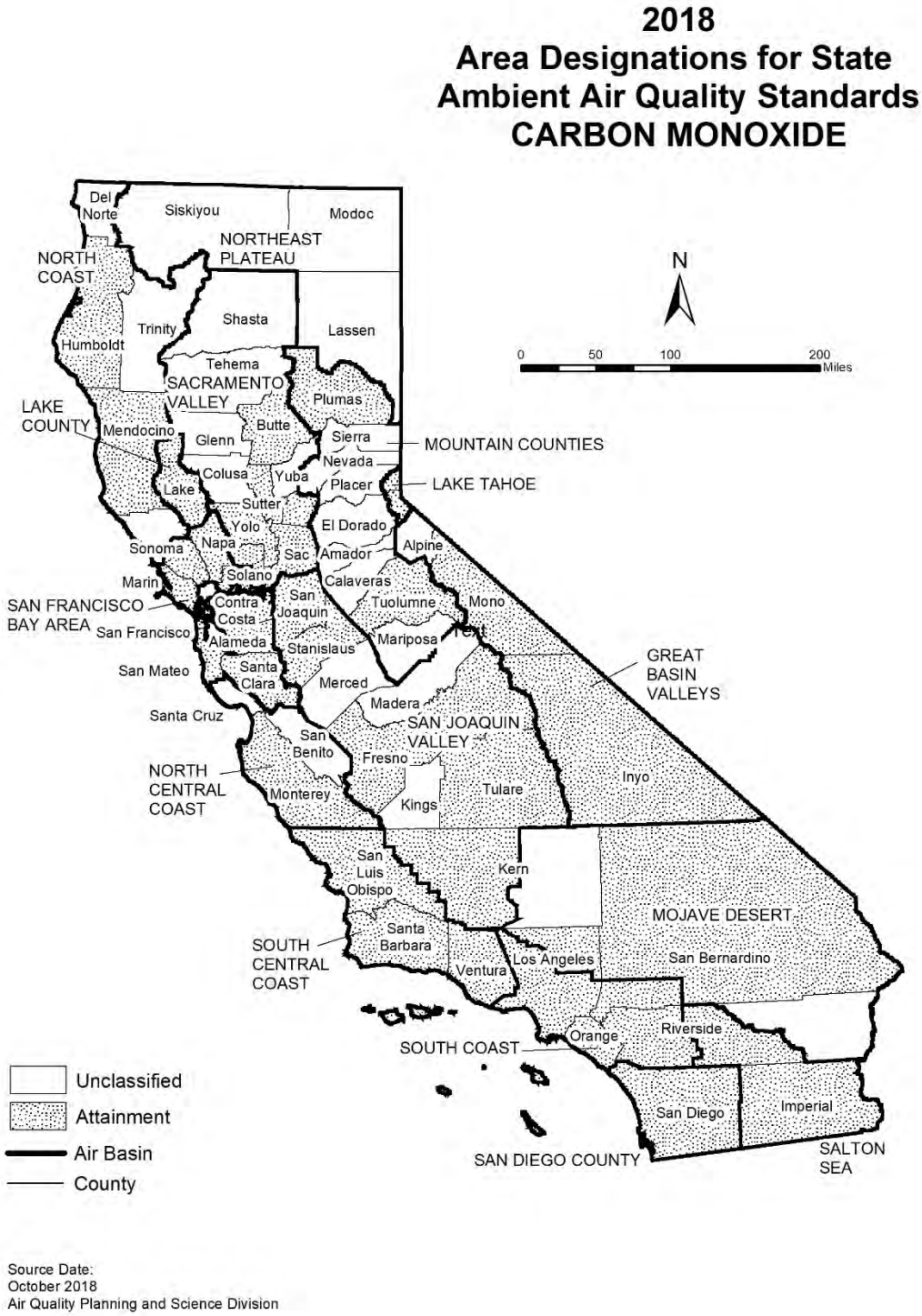
	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SALTON SEA AIR BASIN			
LAKE COUNTY AIR BASIN			X	Imperial County			
LAKE TAHOE AIR BASIN			X	- City of Calexico (3)	X		
MOJAVE DESERT AIR BASIN				Remainder of Air Basin			X
San Bernardino County				SAN DIEGO AIR BASIN	X		
- County portion of federal Southeast Desert Modified AQMA for Ozone (1)			X	SAN FRANCISCO BAY AREA AIR BASIN	X		
				SAN JOAQUIN VALLEY AIR BASIN	X		
Remainder of Air Basin		X		SOUTH CENTRAL COAST AIR BASIN			
MOUNTAIN COUNTIES AIR BASIN				San Luis Obispo County			X
Plumas County				Santa Barbara County		X	
- Portola Valley (2)	X			Ventura County			X
Remainder of Air Basin		X		SOUTH COAST AIR BASIN	X		
NORTH CENTRAL COAST AIR BASIN			X				
NORTH COAST AIR BASIN			X				
NORTHEAST PLATEAU AIR BASIN			X				
SACRAMENTO VALLEY AIR BASIN							
Butte County	X						
Colusa County			X				
Glenn County			X				
Placer County (portion)			X				
Sacramento County			X				
Shasta County			X				
Sutter and Yuba Counties			X				
Remainder of Air Basin		X					

(1) California Code of Regulations, title 17, section 60200(b)

(2) California Code of Regulations, title 17, section 60200(c)

(3) California Code of Regulations, title 17, section 60200(a)

FIGURE 4



Source Date:
October 2018
Air Quality Planning and Science Division

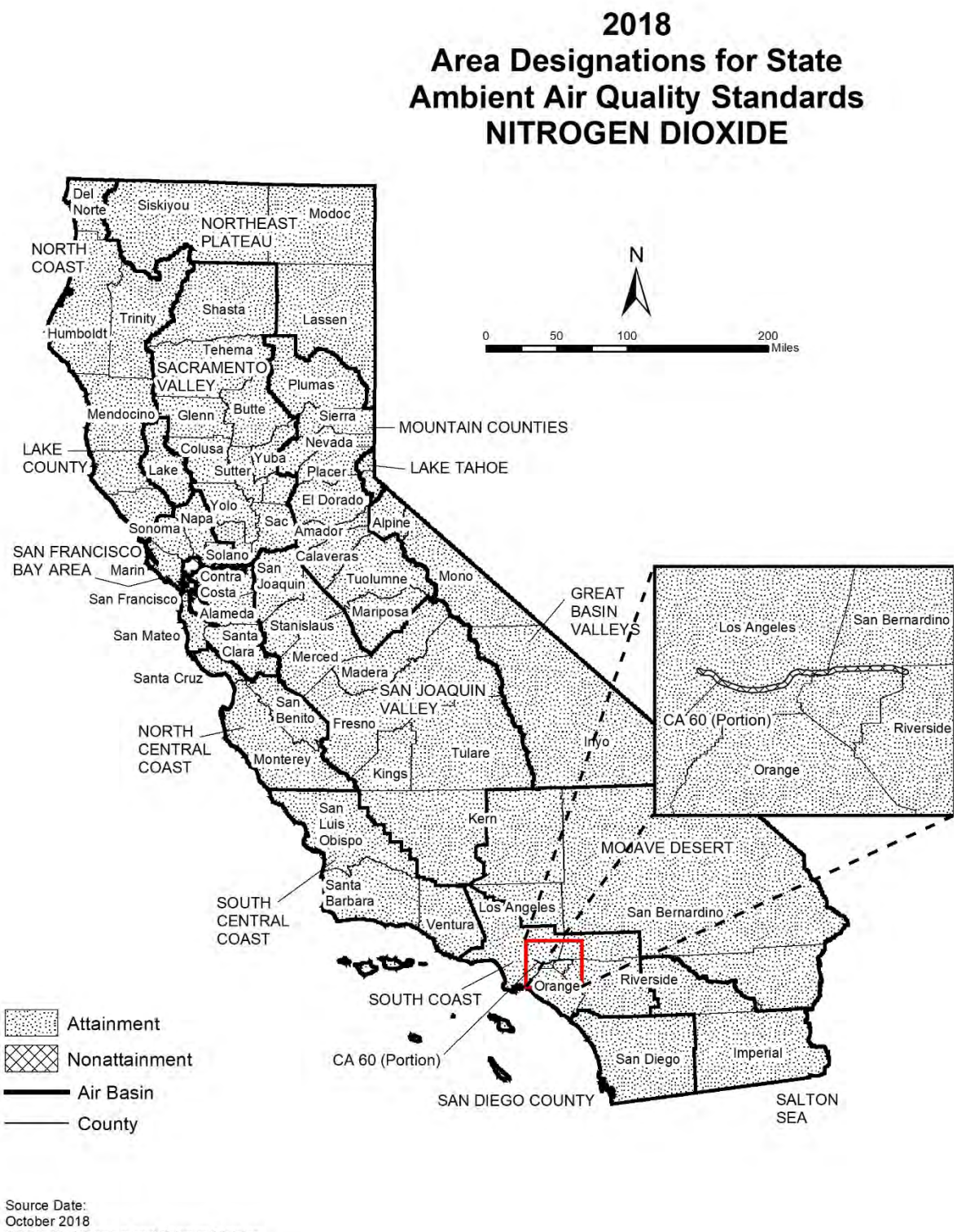
TABLE 4

California Ambient Air Quality Standards
Area Designation for Carbon Monoxide*

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					SACRAMENTO VALLEY AIR BASIN				
Alpine County			X		Butte County				X
Inyo County				X	Colusa County			X	
Mono County				X	Glenn County			X	
LAKE COUNTY AIR BASIN				X	Placer County (portion)				X
LAKE TAHOE AIR BASIN				X	Sacramento County				X
MOJAVE DESERT AIR BASIN					Shasta County			X	
Kern County (portion)			X		Solano County (portion)				X
Los Angeles County (portion)				X	Sutter County				X
Riverside County (portion)			X		Tehama County			X	
San Bernardino County (portion)				X	Yolo County				X
MOUNTAIN COUNTIES AIR BASIN					Yuba County			X	
Amador County			X		SALTON SEA AIR BASIN				X
Calaveras County			X		SAN DIEGO AIR BASIN				X
El Dorado County (portion)			X		SAN FRANCISCO BAY AREA AIR BASIN				X
Mariposa County			X		SAN JOAQUIN VALLEY AIR BASIN				
Nevada County			X		Fresno County				X
Placer County (portion)			X		Kern County (portion)				X
Plumas County				X	Kings County			X	
Sierra County			X		Madera County			X	
Tuolumne County				X	Merced County			X	
NORTH CENTRAL COAST AIR BASIN					San Joaquin County				X
Monterey County				X	Stanislaus County				X
San Benito County			X		Tulare County				X
Santa Cruz County			X		SOUTH CENTRAL COAST AIR BASIN				X
NORTH COAST AIR BASIN					SOUTH COAST AIR BASIN				X
Del Norte County			X						
Humboldt County				X					
Mendocino County				X					
Sonoma County (portion)			X						
Trinity County			X						
NORTHEAST PLATEAU AIR BASIN			X						

* The area designated for carbon monoxide is a county or portion of a county

FIGURE 5



Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 5

California Ambient Air Quality Standards
Area Designation for Nitrogen Dioxide

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SACRAMENTO VALLEY AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN DIEGO AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X	SOUTH COAST AIR BASIN			
NORTHEAST PLATEAU AIR BASIN			X	CA 60 Near-road Portion of San Bernardino, Riverside, and Los Angeles Counties	X		
				Remainder of Air Basin			X

FIGURE 6



Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 6

California Ambient Air Quality Standards
Area Designation for Sulfur Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SALTON SEA AIR BASIN		X
LAKE TAHOE AIR BASIN		X	SAN DIEGO AIR BASIN		X
MOJAVE DESERT AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X			

* The area designated for sulfur dioxide is a county or portion of a county

FIGURE 7



Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 7

California Ambient Air Quality Standards
Area Designation for Sulfates

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SACRAMENTO VALLEY AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN DIEGO AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH COAST AIR BASIN			X	SOUTH COAST AIR BASIN			X
NORTHEAST PLATEAU AIR BASIN			X				

FIGURE 8



Source Date:
October 2018
Air Quality Planning and Science Division

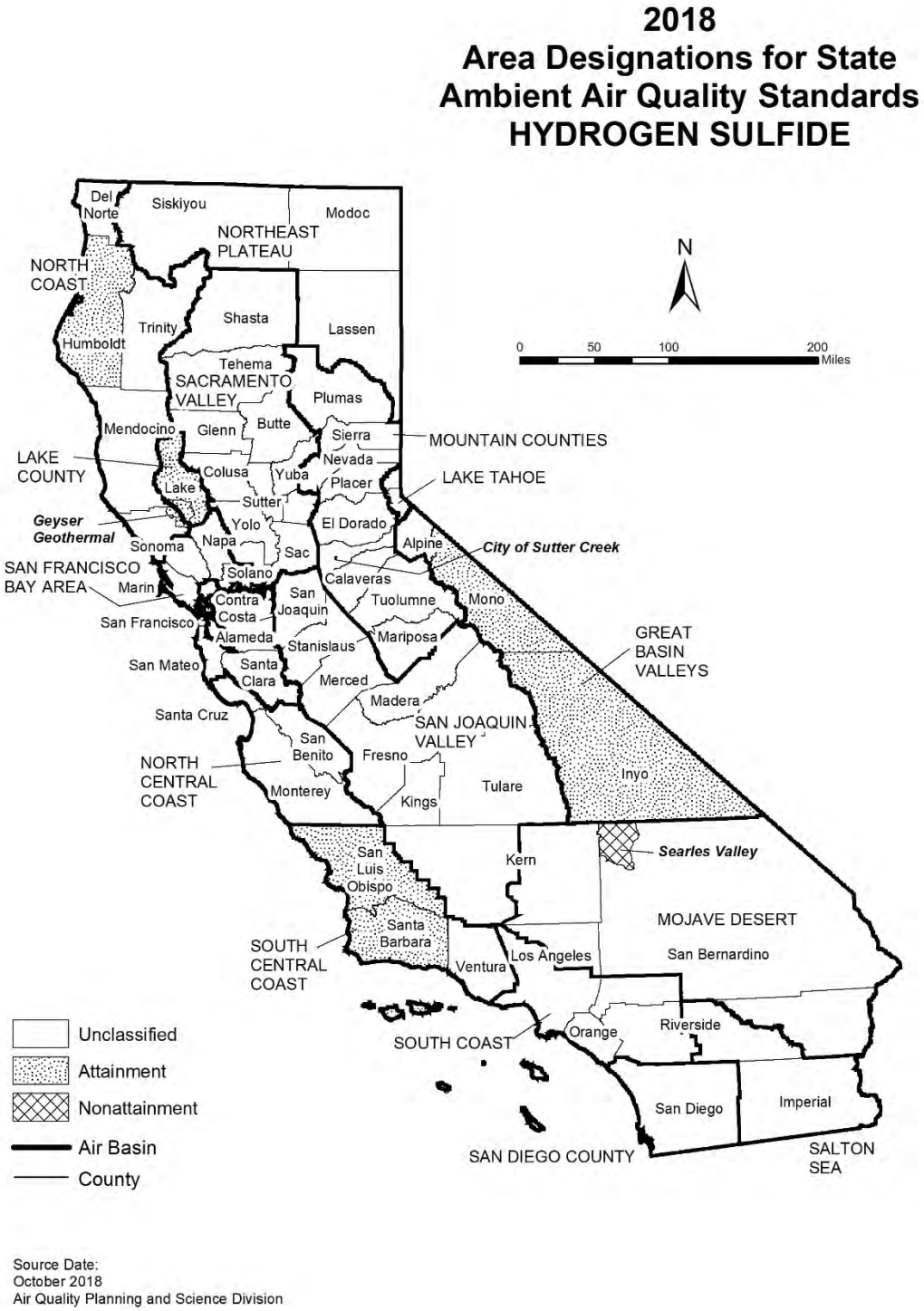
TABLE 8

California Ambient Air Quality Standards
Area Designations for Lead (particulate)*

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN			X	SALTON SEA AIR BASIN			X
LAKE COUNTY AIR BASIN			X	SAN DIEGO AIR BASIN			X
LAKE TAHOE AIR BASIN			X	SAN FRANCISCO BAY AREA AIR BASIN			X
MOJAVE DESERT AIR BASIN			X	SAN JOAQUIN VALLEY AIR BASIN			X
MOUNTAIN COUNTIES AIR BASIN			X	SOUTH CENTRAL COAST AIR BASIN			X
NORTH CENTRAL COAST AIR BASIN			X	SOUTH COAST AIR BASIN			X
NORTH COAST AIR BASIN			X				
NORTHEAST PLATEAU AIR BASIN			X				
SACRAMENTO VALLEY AIR BASIN			X				

* The area designated for lead is a county or portion of a county. Since all areas in the State are in attainment for this standard, air basins are indicated here for simplicity.

FIGURE 9



Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 9

California Ambient Air Quality Standards
Area Designation for Hydrogen Sulfide*

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN					NORTH CENTRAL COAST AIR BASIN			X	
Alpine County			X		NORTH COAST AIR BASIN				
Inyo County				X	Del Norte County			X	
Mono County				X	Humboldt County				X
LAKE COUNTY AIR BASIN				X	Mendocino County			X	
LAKE TAHOE AIR BASIN			X		Sonoma County (portion)				
MOJAVE DESERT AIR BASIN					- Geyser Geothermal Area (2)				X
Kern County (portion)			X		- Remainder of County			X	
Los Angeles County (portion)			X		Trinity County			X	
Riverside County (portion)			X		NORTHEAST PLATEAU AIR BASIN			X	
San Bernardino County (portion)					SACRAMENTO VALLEY AIR BASIN			X	
- Searles Valley Planning Area (1)	X				SALTON SEA AIR BASIN			X	
- Remainder of County			X		SAN DIEGO AIR BASIN			X	
MOUNTAIN COUNTIES AIR BASIN					SAN FRANCISCO BAY AREA AIR BASIN			X	
Amador County					SAN JOAQUIN VALLEY AIR BASIN			X	
- City of Sutter Creek	X				SOUTH CENTRAL COAST AIR BASIN				
- Remainder of County			X		San Luis Obispo County				X
Calaveras County			X		Santa Barbara County				X
El Dorado County (portion)			X		Ventura County			X	
Mariposa County			X		SOUTH COAST AIR BASIN			X	
Nevada County			X						
Placer County (portion)			X						
Plumas County			X						
Sierra County			X						
Tuolumne County			X						

* The area designated for hydrogen sulfide is a county or portion of a county

(1) 52 Federal Register 29384 (August 7, 1987)

(2) California Code of Regulations, title 17, section 60200(d)

FIGURE 10



Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 10

California Ambient Air Quality Standards
Area Designation for Visibility Reducing Particles

	N	NA-T	U	A		N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN			X		SACRAMENTO VALLEY AIR BASIN			X	
LAKE COUNTY AIR BASIN				X	SALTON SEA AIR BASIN			X	
LAKE TAHOE AIR BASIN			X		SAN DIEGO AIR BASIN			X	
MOJAVE DESERT AIR BASIN			X		SAN FRANCISCO BAY AREA AIR BASIN			X	
MOUNTAIN COUNTIES AIR BASIN			X		SAN JOAQUIN VALLEY AIR BASIN			X	
NORTH CENTRAL COAST AIR BASIN			X		SOUTH CENTRAL COAST AIR BASIN			X	
NORTH COAST AIR BASIN			X		SOUTH COAST AIR BASIN			X	
NORTHEAST PLATEAU AIR BASIN			X						

Area Designations for the National Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a national ambient air quality standard. Additional information about the federal area designations is available on the U.S. EPA website:

https://www.epa.gov/green-book

Over the last several years, U.S. EPA has been reviewing the levels of the various national standards. The agency has already promulgated new standard levels for some pollutants and is considering revising the levels for others. Information about the status of these reviews is available on the U.S. EPA website:

https://www.epa.gov/criteria-air-pollutants

Designation Categories

Suspended Particulate Matter (PM_{10}). The U.S. EPA uses three categories to designate areas with respect to PM_{10}:

- Attainment
- Nonattainment
- Unclassifiable

Ozone, Fine Suspended Particulate Matter ($PM_{2.5}$), Carbon Monoxide (CO), and Nitrogen Dioxide (NO_2). The U.S. EPA uses two categories to designate areas with respect to these standards:

- Nonattainment
- Unclassifiable/Attainment

The national 1-hour ozone standard was revoked effective June 15, 2005, and the area designations map reflects the 2015 national 8-hour ozone standard of 0.070 ppm. Original designations were finalized on August 3, 2018.

On December 14, 2012, the U.S. EPA established a new national annual primary $PM_{2.5}$ standard of 12.0 $\mu g/m^3$. New area designations reflecting this revised standard became final in December 2014. The current designation map reflects the most recently revised (2012) annual average standard of 12.0 $\mu g/m^3$ as well as the 24-hour standard of 35 $\mu g/m^3$, revised in 2006.

On January 22, 2010, the U.S. EPA established a new national 1-hour NO_2 standard of 100 parts per billion (ppb) and retained the annual average standard of 53 ppb. Designations for the primary NO_2 standard became effective on February 29, 2012. All areas of California meet this standard.

Sulfur Dioxide (SO_2). The U.S. EPA uses three categories to designate areas with respect to the 24-hour and annual average sulfur dioxide standards. These designation categories are:

- Nonattainment,
- Unclassifiable, and
- Attainment/Unclassifiable.

On June 2, 2010, the U.S. EPA established a new primary 1-hour SO_2 standard of 75 parts per billion (ppb). At the same time, U.S. EPA revoked the 24-hour and annual

average standards. Area designations for the 1-hour SO_2 standard were finalized on December 21, 2017 and are reflected in the area designations map.

Lead (particulate). The U.S. EPA promulgated a new rolling 3-month average lead standard in October 2008 of 0.15 µg/m^3. Designations were made for this standard in November 2010.

Designation Areas

From time to time, the boundaries of the California air basins have been changed to facilitate the planning process. CARB generally initiates these changes, and they are not always reflected in the U.S. EPA's area designations. For purposes of consistency, the maps in this attachment reflect area designation boundaries and nomenclature as promulgated by the U.S. EPA. In some cases, these may not be the same as those adopted by CARB. For example, the national area designations reflect the former Southeast Desert Air Basin. In accordance with Health and Safety Code section 39606.1, CARB redefined this area in 1996 to be the Mojave Desert Air Basin and Salton Sea Air Basin. The definitions and boundaries for all areas designated for the national standards can be found in Title 40, Code of Federal Regulations (CFR), Chapter I, Subchapter C, Part 81.305. They are available on the web at:

https://ecfr.io/Title-40/se40.20.81_1305

FIGURE 11

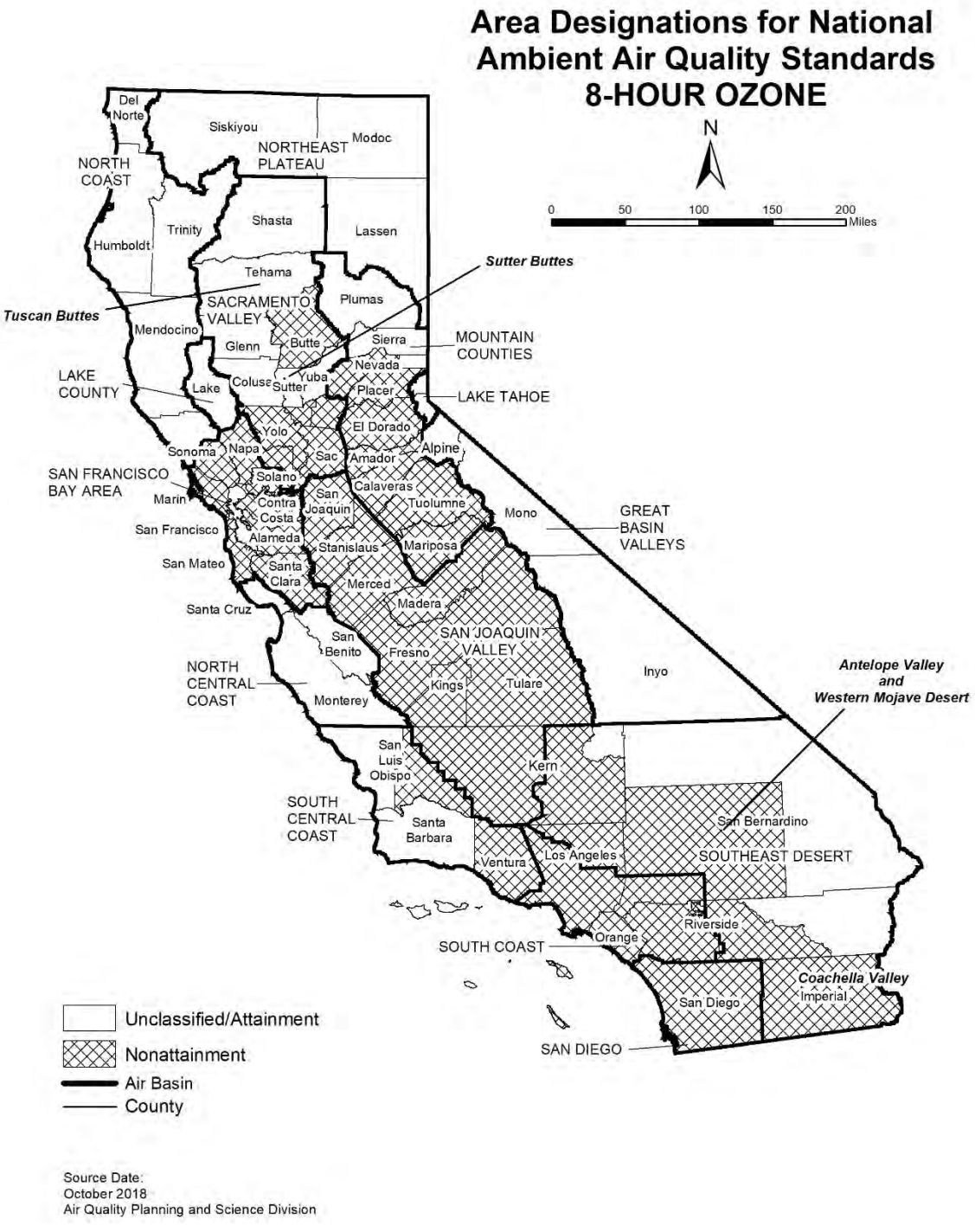

Area Designations for National Ambient Air Quality Standards
8-HOUR OZONE
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
Sutter Buttes
Tuscan Buttes
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Lake
Colusa
Sutter
Yuba
Placer
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Marin
Contra Costa
San Joaquin
Calaveras
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
San Benito
SAN JOAQUIN VALLEY
Fresno
Inyo
Antelope Valley and Western Mojave Desert
NORTH CENTRAL COAST
Monterey
Kings
Tulare
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
SOUTHEAST DESERT
Riverside
Orange
SOUTH COAST
Coachella Valley
Imperial
San Diego
SAN DIEGO
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 11

National Ambient Air Quality Standards
Area Designations for 8-Hour Ozone*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN (cont.)		
LAKE COUNTY AIR BASIN		X	Yolo County (2)	X	
LAKE TAHOE AIR BASIN		X	Yuba County		X
MOUNTAIN COUNTIES AIR BASIN			SAN DIEGO COUNTY	X	
Amador County	X		SAN FRANCISCO BAY AREA AIR BASIN	X	
Calaveras County	X		SAN JOAQUIN VALLEY AIR BASIN	X	
El Dorado County (portion) (2)	X		SOUTH CENTRAL COAST AIR BASIN (1)		
Mariposa County	X		San Luis Obispo County		
Nevada County			- Eastern San Luis Obispo County	X	
- Western Nevada County	X		- Remainder of County		X
- Remainder of County		X	Santa Barbara County		X
Placer County (portion) (2)	X		Ventura County		
Plumas County		X	- Area excluding Anacapa and San Nicolas Islands	X	
Sierra County		X	- Channel Islands (1)		X
Tuolumne County	X		SOUTH COAST AIR BASIN (1)	X	
NORTH CENTRAL COAST AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		
NORTH COAST AIR BASIN		X	Kern County (portion)	X	
NORTHEAST PLATEAU AIR BASIN		X	- Indian Wells Valley		X
SACRAMENTO VALLEY AIR BASIN			Imperial County	X	
Butte County	X		Los Angeles County (portion)	X	
Colusa County		X	Riverside County (portion)		
Glenn County		X	- Coachella Valley	X	
Sacramento Metro Area (2)	X		- Non-AQMA portion		X
Shasta County		X	San Bernardino County		
Sutter County			- Western portion (AQMA)	X	
- Sutter Buttes	X		- Eastern portion (non-AQMA)		X
- Southern portion of Sutter County (2)	X				
- Remainder of Sutter County		X			
Tehama County					
- Tuscan Buttes	X				
- Remainder of Tehama County		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

NOTE: This map and table reflect the 2015 8-hour ozone standard of 0.070 ppm.

(1) South Central Coast Air Basin Channel Islands:
Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.
Ventura County includes Anacapa and San Nicolas Islands.

South Coast Air Basin:
Los Angeles County includes San Clemente and Santa Catalina Islands.

(2) For this purpose, the Sacramento Metro Area comprises all of Sacramento and Yolo Counties, the Sacramento Valley Air Basin portion of Solano County, the southern portion of Sutter County, and the Sacramento Valley and Mountain Counties Air Basins portions of Placer and El Dorado counties.

FIGURE 12


Area Designations for National Ambient Air Quality Standards PM10
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Colusa
Yuba
Lake
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Alpine
Sacramento County
Sonoma
Napa
Sac
Amador
SAN FRANCISCO BAY AREA
Marin
Solano
Calaveras
Mono
Mono Basin
San Joaquin
Contra Costa
Tuolumne
Mammoth Lake
San Francisco
Alameda
Mariposa
GREAT BASIN VALLEYS
Stanislaus
San Mateo
Santa Clara
Merced
Madera
Inyo
Santa Cruz
San Benito
Fresno
SAN JOAQUIN VALLEY
Owens Valley
Coso Junction
Trona
NORTH CENTRAL COAST
Monterey
Kings
Tulare
San Luis Obispo
Kern
Indian Wells Valley
San Bernardino
SOUTH CENTRAL COAST
Santa Barbara
Ventura
Los Angeles
SOUTHEAST DESERT
Riverside
Coachella Valley
Orange
SOUTH COAST
Imperial
San Diego
SAN DIEGO COUNTY
Unclassified
Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 12

National Ambient Air Quality Standards
Area Designations for Suspended Particulate Matter (PM10)*

	N	U	A		N	U	A
GREAT BASIN VALLEYS AIR BASIN				SAN DIEGO COUNTY		X	
Alpine County		X		SAN FRANCISCO BAY AREA AIR BASIN		X	
Inyo County				SAN JOAQUIN VALLEY AIR BASIN			X
- Owens Valley Planning Area	X			SOUTH CENTRAL COAST AIR BASIN		X	
- Coso Junction			X	SOUTH COAST AIR BASIN			X
- Remainder of County		X		SOUTHEAST DESERT AIR BASIN			
Mono County				Eastern Kern County			
- Mammoth Lake Planning Area			X	- Indian Wells Valley			X
- Mono Lake Basin	X			- Portion within San Joaquin Valley Planning Area	X		
- Remainder of County		X		- Remainder of County		X	
LAKE COUNTY AIR BASIN		X		Imperial County			
LAKE TAHOE AIR BASIN		X		- Imperial Valley Planning Area	X		
MOUNTAIN COUNTIES AIR BASIN				- Remainder of County		X	
Placer County (portion) (2)		X		Los Angeles County (portion)		X	
Remainder of Air Basin		X		Riverside County (portion)			
NORTH CENTRAL COAST AIR BASIN		X		- Coachella Valley (3)	X		
NORTH COAST AIR BASIN		X		- Non-AQMA portion		X	
NORTHEAST PLATEAU AIR BASIN		X		San Bernardino County			
SACRAMENTO VALLEY AIR BASIN				- Trona	X		
Butte County		X		- Remainder of County	X		
Colusa County		X					
Glenn County		X					
Placer County (portion) (2)		X					
Sacramento County (1)			X				
Shasta County		X					
Solano County (portion)		X					
Sutter County		X					
Tehama County		X					
Yolo County		X					
Yuba County		X					

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.
(1) Air quality in Sacramento County meets the national PM10 standards. The request for redesignation to attainment was approved by U.S. EPA in September 2013.
(2) U.S. EPA designation puts the Sacramento Valley Air Basin portion of Placer County in the Mountain Counties Air Basin.
(3) Air quality in Coachella Valley meets the national PM10 standards. A request for redesignation to attainment has been submitted to U.S. EPA.

FIGURE 13


Area Designations for National Ambient Air Quality Standards PM2.5
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTH COAST
NORTHEAST PLATEAU
Humboldt
Trinity
Shasta
Lassen
Tehama
SACRAMENTO VALLEY
Plumas
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Mendocino
Nevada
LAKE COUNTY
Colusa
Yuba
Placer
Lake
Sutter
LAKE TAHOE
El Dorado
Yolo
Sonoma
Napa
Sacramento
Alpine
Amador
Solano
Calaveras
SAN FRANCISCO BAY AREA
Marin
Tuolumne
GREAT BASIN VALLEYS
Contra Costa
San Joaquin
Mono
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
Fresno
NORTH CENTRAL COAST
San Benito
SAN JOAQUIN VALLEY
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
SOUTHEAST DESERT
Ventura
Los Angeles
Orange
Riverside
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 13

National Ambient Air Quality Standards
Area Designations for Fine Particulate Matter (PM2.5)*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE COUNTY AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN (2)	X	
LAKE TAHOE AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN	X	
MOUNTAIN COUNTIES AIR BASIN			SOUTH CENTRAL COAST AIR BASIN		X
Plumas County			SOUTH COAST AIR BASIN (3)	X	
- Portola Valley Portion of Plumas	X		SOUTHEAST DESERT AIR BASIN		
- Remainder of Plumas County		X	Imperial County (portion) (4)	X	
Remainder of Air Basin		X	Remainder of Air Basin		X
NORTH CENTRAL COAST AIR BASIN		X			
NORTH COAST AIR BASIN		X			
NORTHEAST PLATEAU AIR BASIN		X			
SACRAMENTO VALLEY AIR BASIN					
Sacramento Metro Area (1)	X				
Sutter County		X			
Yuba County (portion)		X			
Remainder of Air Basin		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305. This map reflects the 2006 24-hour PM2.5 standard as well as the 1997 and 2012 PM2.5 annual standards.

(1) For this purpose, Sacramento Metro Area comprises all of Sacramento and portions of El Dorado, Placer, Solano, and Yolo Counties. Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

(2) Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

(3) Those lands of the Santa Rosa Band of Cahulla Mission Indians in Riverside County are designated Unclassifiable/Attainment.

(4) That portion of Imperial County encompassing the urban and surrounding areas of Brawley, Calexico, El Centro, Heber, Holtville, Imperial, Seeley, and Westmorland. Air quality in this area meets the national PM2.5 standards. A Determination of Attainment for the 2006 24-hour PM2.5 standard was made by U.S. EPA in June 2017.

FIGURE 14


Area Designations for National Ambient Air Quality Standards
CARBON MONOXIDE
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Lake
Sutter
Yuba
Placer
LAKE TAHOE
LAKE COUNTY
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
San Joaquin
Contra Costa
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 14

National Ambient Air Quality Standards
Area Designations for Carbon Monoxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE TAHOE AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

FIGURE 15


Area Designations for National Ambient Air Quality Standards
NITROGEN DIOXIDE
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
Plumas
SACRAMENTO VALLEY
Mendocino
Glenn
Butte
Sierra
Nevada
MOUNTAIN COUNTIES
Colusa
Yuba
Placer
LAKE COUNTY
Lake
Sutter
LAKE TAHOE
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Marin
Calaveras
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Tulare
Inyo
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
Los Angeles
San Bernardino
Ventura
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 15

National Ambient Air Quality Standards
Area Designations for Nitrogen Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SACRAMENTO VALLEY AIR BASIN		X
LAKE COUNTY AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE TAHOE AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

FIGURE 16



Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 16

National Ambient Air Quality Standards
Area Designations for Sulfur Dioxide*

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		
LAKE COUNTY AIR BASIN		X	San Luis Obispo County		X
LAKE TAHOE AIR BASIN		X	Santa Barbara County		X
MOUNTAIN COUNTIES AIR BASIN		X	Ventura County		X
NORTH CENTRAL COAST AIR BASIN		X	Channel Islands (1)		X
NORTH COAST AIR BASIN		X	SOUTH COAST AIR BASIN		X
NORTHEAST PLATEAU AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		
SACRAMENTO VALLEY AIR BASIN		X	Imperial County		X
SAN DIEGO COUNTY		X	Remainder of Air Basin		X
SAN FRANCISCO BAY AREA AIR BASIN		X			
SAN JOAQUIN VALLEY AIR BASIN					
Fresno County		X			
Kern County (portion)		X			
Kings County		X			
Madera County		X			
Merced County		X			
San Joaquin County		X			
Stanislaus County		X			
Tulare County		X			

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

NOTE: This map and table reflect the 2010 1-hour SO_2 standard of 75 ppb.

(1) South Central Coast Air Basin Channel Islands:

Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.

Ventura County includes Anacapa and San Nicolas Islands.

Note that the San Clemente and Santa Catalina Islands are considered part of Los Angeles County, and therefore, are included as part of the South Coast Air Basin.

FIGURE 17


Area Designations for National Ambient Air Quality Standards LEAD
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Lassen
Trinity
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Lake
Sutter
Yuba
Placer
LAKE TAHOE
LAKE COUNTY
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
San Joaquin
Contra Costa
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Source Date:
October 2018
Air Quality Planning and Science Division

TABLE 17

National Ambient Air Quality Standards
Area Designations for Lead (particulate)

	N	U/A		N	U/A
GREAT BASIN VALLEYS AIR BASIN		X	SAN DIEGO COUNTY		X
LAKE COUNTY AIR BASIN		X	SAN FRANCISCO BAY AREA AIR BASIN		X
LAKE TAHOE AIR BASIN		X	SAN JOAQUIN VALLEY AIR BASIN		X
MOUNTAIN COUNTIES AIR BASIN		X	SOUTH CENTRAL COAST AIR BASIN		X
NORTH CENTRAL COAST AIR BASIN		X	SOUTH COAST AIR BASIN		
NORTH COAST AIR BASIN		X	Los Angeles County (portion) (1)	X	
NORTHEAST PLATEAU AIR BASIN		X	Remainder of Air Basin		X
SACRAMENTO VALLEY AIR BASIN		X	SOUTHEAST DESERT AIR BASIN		X

(1) Portion of County in Air Basin, not including Channel Islands

This page intentionally left blank

APPENDIX 3.1:

CALEEMOD CONSTRUCTION (UNMITIGATED) EMISSIONS MODEL OUTPUTS

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Wildomar Crossroads (Construction - Unmitigated)

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.00	1000sqft	0.69	29,996.00	0
Other Non-Asphalt Surfaces	66.55	1000sqft	1.53	66,549.00	0
Parking Lot	477.00	Space	1.81	79,056.00	0
City Park	1.32	Acre	1.32	57,591.00	0
Fast Food Restaurant with Drive Thru	3.88	1000sqft	0.09	3,883.00	0
High Turnover (Sit Down Restaurant)	3.35	1000sqft	0.08	3,348.00	0
Apartments Mid Rise	150.00	Dwelling Unit	2.84	123,862.00	429
Strip Mall	5.09	1000sqft	0.12	5,087.00	0
Supermarket	23.10	1000sqft	0.53	23,104.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project area is 9.01 acres

Off-road Equipment - Hours are based on an 8-hour workday

Off-road Equipment - Hours are based on an 8-hour workday

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Off-road Equipment -

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Trips and VMT - CalEEMod only assumes Vendor Trips during Building Construction. The CalEEMod default trips were ratioed between each phase based on the number of days

Demolition -

Grading - For purposes of analysis, total acres graded per day is based on the equipment specific grading rates (CalEEMod Appendix A) and the equipment list

Architectural Coating - Rule 1113

Vehicle Trips - Construction run only

Woodstoves - Construction run only

Energy Use - Construction run only

Water And Wastewater - Construction run only

Solid Waste - Construction run only

Construction Off-road Equipment Mitigation - Rule 403

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	6.62	0.00
tblEnergyUse	LightingElect	6.62	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	5.61	0.00
tblEnergyUse	LightingElect	8.14	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	28.48	0.00
tblEnergyUse	NT24E	28.48	0.00
tblEnergyUse	NT24E	2.44	0.00
tblEnergyUse	NT24E	22.82	0.00
tblEnergyUse	NT24NG	6,030.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblEnergyUse	NT24NG	195.77	0.00
tblEnergyUse	NT24NG	195.77	0.00
tblEnergyUse	NT24NG	0.30	0.00
tblEnergyUse	NT24NG	6.61	0.00
tblEnergyUse	T24E	164.47	0.00
tblEnergyUse	T24E	11.06	0.00
tblEnergyUse	T24E	11.06	0.00
tblEnergyUse	T24E	4.09	0.00
tblEnergyUse	T24E	5.42	0.00
tblEnergyUse	T24NG	8,352.17	0.00
tblEnergyUse	T24NG	76.89	0.00
tblEnergyUse	T24NG	76.89	0.00
tblEnergyUse	T24NG	1.90	0.00
tblEnergyUse	T24NG	12.52	0.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	127.50	0.00
tblFireplaces	NumberNoFireplace	15.00	0.00
tblFireplaces	NumberWood	7.50	0.00
tblGrading	MaterialExported	0.00	38,761.00
tblLandUse	LandUseSquareFeet	190,800.00	79,056.00
tblLandUse	LandUseSquareFeet	57,586.32	57,591.00
tblLandUse	LandUseSquareFeet	150,000.00	123,862.00
tblLandUse	LotAcreage	4.29	1.81
tblLandUse	LotAcreage	3.95	2.84
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	69.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.11	0.00
tblSolidWaste	SolidWasteGenerationRate	44.69	0.00
tblSolidWaste	SolidWasteGenerationRate	39.87	0.00
tblSolidWaste	SolidWasteGenerationRate	5.34	0.00
tblSolidWaste	SolidWasteGenerationRate	130.28	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	60.00	43.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	78.80	0.00
tblVehicleTrips	CC_TTP	72.50	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CC_TTP	64.40	0.00
tblVehicleTrips	CC_TTP	74.50	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	2.20	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	CW_TTP	16.60	0.00
tblVehicleTrips	CW_TTP	6.50	0.00
tblVehicleTrips	DV_TP	11.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	86.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	29.00	0.00
tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	PR_TP	45.00	0.00
tblVehicleTrips	PR_TP	34.00	0.00
tblVehicleTrips	ST_TR	4.91	0.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	616.12	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	ST_TR	177.62	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	SU_TR	4.09	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	472.58	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	SU_TR	166.47	0.00
tblVehicleTrips	WD_TR	5.44	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	470.95	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	44.32	0.00
tblVehicleTrips	WD_TR	106.78	0.00
tblWater	IndoorWaterUseRate	9,773,103.84	0.00
tblWater	IndoorWaterUseRate	1,177,710.80	0.00
tblWater	IndoorWaterUseRate	1,016,837.94	0.00
tblWater	IndoorWaterUseRate	377,029.13	0.00
tblWater	IndoorWaterUseRate	2,847,495.76	0.00
tblWater	OutdoorWaterUseRate	6,161,304.60	0.00
tblWater	OutdoorWaterUseRate	1,572,755.38	0.00
tblWater	OutdoorWaterUseRate	75,173.03	0.00
tblWater	OutdoorWaterUseRate	64,904.55	0.00
tblWater	OutdoorWaterUseRate	231,082.37	0.00
tblWater	OutdoorWaterUseRate	88,066.88	0.00
tblWoodstoves	NumberCatalytic	7.50	0.00
tblWoodstoves	NumberNoncatalytic	7.50	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.5477	50.4758	21.2608	0.0591	21.9920	2.1586	24.1507	10.3885	1.9860	12.3745	0.0000	5,733.3887	5,733.3887	1.7867	0.0186	5,781.1241
2023	3.8937	53.0162	25.8860	0.1790	21.9920	1.7570	23.7490	10.3885	1.6165	12.0050	0.0000	18,676.5927	18,676.5927	1.7852	2.2544	19,387.8051
2024	49.7979	9.6855	15.1942	0.0249	0.5174	0.4704	0.6637	0.1378	0.4328	0.4847	0.0000	2,427.8023	2,427.8023	0.7179	0.0204	2,449.9315
Maximum	**49.7979**	**53.0162**	**25.8860**	**0.1790**	**21.9920**	**2.1586**	**24.1507**	**10.3885**	**1.9860**	**12.3745**	**0.0000**	**18,676.5927**	**18,676.5927**	**1.7867**	**2.2544**	**19,387.8051**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.5477	50.4758	21.2608	0.0591	8.7074	2.1586	10.8661	4.0863	1.9860	6.0723	0.0000	5,733.3887	5,733.3887	1.7867	0.0186	5,781.1241
2023	3.8937	53.0162	25.8860	0.1790	8.7074	1.7570	10.4644	4.0863	1.6165	5.7028	0.0000	18,676.5927	18,676.5927	1.7852	2.2544	19,387.8051
2024	49.7979	9.6855	15.1942	0.0249	0.5174	0.4704	0.6637	0.1378	0.4328	0.4847	0.0000	2,427.8023	2,427.8023	0.7179	0.0204	2,449.9315
Maximum	**49.7979**	**53.0162**	**25.8860**	**0.1790**	**8.7074**	**2.1586**	**10.8661**	**4.0863**	**1.9860**	**6.0723**	**0.0000**	**18,676.5927**	**18,676.5927**	**1.7867**	**2.2544**	**19,387.8051**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	59.70	0.00	54.71	60.27	0.00	50.69	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2022	12/28/2022	5	20	
2	Site Preparation	Site Preparation	12/29/2022	1/11/2023	5	10	
3	Grading	Grading	1/12/2023	2/8/2023	5	20	
4	Building Construction	Building Construction	2/9/2023	12/27/2023	5	230	
5	Paving	Paving	12/28/2023	1/24/2024	5	20	
6	Architectural Coating	Architectural Coating	1/25/2024	2/21/2024	5	20	

Acres of Grading (Site Preparation Phase): 35

Acres of Grading (Grading Phase): 50

Acres of Paving: 4.03

Residential Indoor: 250,821; Residential Outdoor: 83,607; Non-Residential Indoor: 53,133; Non-Residential Outdoor: 17,711; Striped Parking Area: 10,536 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	3	8.00	212	0.43
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	4.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	4.00	4,845.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	218.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0710	0.0000	0.0710	0.0108	0.0000	0.0108			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0710**	**1.2427**	**1.3137**	**0.0108**	**1.1553**	**1.1660**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1100e-003	0.0447	9.9400e-003	2.0000e-004	6.1300e-003	5.2000e-004	6.6500e-003	1.6800e-003	5.0000e-004	2.1800e-003		21.4673	21.4673	2.9000e-004	3.3800e-003	22.4823
Vendor	6.5100e-003	0.1691	0.0588	7.3000e-004	0.0256	2.4400e-003	0.0281	7.3800e-003	2.3300e-003	9.7100e-003		77.1781	77.1781	8.2000e-004	0.0115	80.6092
Worker	0.0591	0.0383	0.5980	1.5200e-003	0.1677	8.4000e-004	0.1685	0.0445	7.7000e-004	0.0452		155.0309	155.0309	3.8400e-003	3.8100e-003	156.2632
Total	**0.0667**	**0.2522**	**0.6667**	**2.4500e-003**	**0.1994**	**3.8000e-003**	**0.2032**	**0.0535**	**3.6000e-003**	**0.0571**		**253.6763**	**253.6763**	**4.9500e-003**	**0.0186**	**259.3547**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0277	0.0000	0.0277	4.1900e-003	0.0000	4.1900e-003			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0277**	**1.2427**	**1.2704**	**4.1900e-003**	**1.1553**	**1.1595**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1100e-003	0.0447	9.9400e-003	2.0000e-004	6.1300e-003	5.2000e-004	6.6500e-003	1.6800e-003	5.0000e-004	2.1800e-003		21.4673	21.4673	2.9000e-004	3.3800e-003	22.4823
Vendor	6.5100e-003	0.1691	0.0588	7.3000e-004	0.0256	2.4400e-003	0.0281	7.3800e-003	2.3300e-003	9.7100e-003		77.1781	77.1781	8.2000e-004	0.0115	80.6092
Worker	0.0591	0.0383	0.5980	1.5200e-003	0.1677	8.4000e-004	0.1685	0.0445	7.7000e-004	0.0452		155.0309	155.0309	3.8400e-003	3.8100e-003	156.2632
Total	**0.0667**	**0.2522**	**0.6667**	**2.4500e-003**	**0.1994**	**3.8000e-003**	**0.2032**	**0.0535**	**3.6000e-003**	**0.0571**		**253.6763**	**253.6763**	**4.9500e-003**	**0.0186**	**259.3547**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.7780	0.0000	21.7780	10.3315	0.0000	10.3315			0.0000			0.0000
Off-Road	4.4735	50.3453	19.9794	0.0569		2.1564	2.1564		1.9839	1.9839		5,508.7626	5,508.7626	1.7817		5,553.3037
Total	**4.4735**	**50.3453**	**19.9794**	**0.0569**	**21.7780**	**2.1564**	**23.9344**	**10.3315**	**1.9839**	**12.3154**		**5,508.7626**	**5,508.7626**	**1.7817**		**5,553.3037**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2500e-003	0.0846	0.0294	3.6000e-004	0.0128	1.2200e-003	0.0140	3.6900e-003	1.1700e-003	4.8600e-003		38.5891	38.5891	4.1000e-004	5.7200e-003	40.3046
Worker	0.0709	0.0460	0.7176	1.8300e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		186.0370	186.0370	4.6100e-003	4.5800e-003	187.5158
Total	**0.0742**	**0.1305**	**0.7470**	**2.1900e-003**	**0.2140**	**2.2200e-003**	**0.2162**	**0.0571**	**2.0900e-003**	**0.0591**		**224.6261**	**224.6261**	**5.0200e-003**	**0.0103**	**227.8204**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4934	0.0000	8.4934	4.0293	0.0000	4.0293			0.0000			0.0000
Off-Road	4.4735	50.3453	19.9794	0.0569		2.1564	2.1564		1.9839	1.9839	0.0000	5,508.7626	5,508.7626	1.7817		5,553.3037
Total	**4.4735**	**50.3453**	**19.9794**	**0.0569**	**8.4934**	**2.1564**	**10.6498**	**4.0293**	**1.9839**	**6.0132**	**0.0000**	**5,508.7626**	**5,508.7626**	**1.7817**		**5,553.3037**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2500e-003	0.0846	0.0294	3.6000e-004	0.0128	1.2200e-003	0.0140	3.6900e-003	1.1700e-003	4.8600e-003		38.5891	38.5891	4.1000e-004	5.7200e-003	40.3046
Worker	0.0709	0.0460	0.7176	1.8300e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		186.0370	186.0370	4.6100e-003	4.5800e-003	187.5158
Total	**0.0742**	**0.1305**	**0.7470**	**2.1900e-003**	**0.2140**	**2.2200e-003**	**0.2162**	**0.0571**	**2.0900e-003**	**0.0591**		**224.6261**	**224.6261**	**5.0200e-003**	**0.0103**	**227.8204**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.7780	0.0000	21.7780	10.3315	0.0000	10.3315			0.0000			0.0000
Off-Road	3.8257	41.8226	18.2686	0.0568		1.7555	1.7555		1.6151	1.6151		5,505.6246	5,505.6246	1.7806		5,550.1404
Total	**3.8257**	**41.8226**	**18.2686**	**0.0568**	**21.7780**	**1.7555**	**23.5335**	**10.3315**	**1.6151**	**11.9465**		**5,505.6246**	**5,505.6246**	**1.7806**		**5,550.1404**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2500e-003	0.0653	0.0269	3.5000e-004	0.0128	5.7000e-004	0.0134	3.6900e-003	5.4000e-004	4.2300e-003		37.0542	37.0542	3.8000e-004	5.4800e-003	38.6954
Worker	0.0658	0.0406	0.6603	1.7700e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		181.1165	181.1165	4.1400e-003	4.2200e-003	182.4783
Total	**0.0680**	**0.1060**	**0.6872**	**2.1200e-003**	**0.2140**	**1.5100e-003**	**0.2155**	**0.0571**	**1.4100e-003**	**0.0585**		**218.1707**	**218.1707**	**4.5200e-003**	**9.7000e-003**	**221.1737**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4934	0.0000	8.4934	4.0293	0.0000	4.0293			0.0000			0.0000
Off-Road	3.8257	41.8226	18.2686	0.0568		1.7555	1.7555		1.6151	1.6151	0.0000	5,505.6246	5,505.6246	1.7806		5,550.1404
Total	**3.8257**	**41.8226**	**18.2686**	**0.0568**	**8.4934**	**1.7555**	**10.2489**	**4.0293**	**1.6151**	**5.6443**	**0.0000**	**5,505.6246**	**5,505.6246**	**1.7806**		**5,550.1404**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2500e-003	0.0653	0.0269	3.5000e-004	0.0128	5.7000e-004	0.0134	3.6900e-003	5.4000e-004	4.2300e-003		37.0542	37.0542	3.8000e-004	5.4800e-003	38.6954
Worker	0.0658	0.0406	0.6603	1.7700e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		181.1165	181.1165	4.1400e-003	4.2200e-003	182.4783
Total	**0.0680**	**0.1060**	**0.6872**	**2.1200e-003**	**0.2140**	**1.5100e-003**	**0.2155**	**0.0571**	**1.4100e-003**	**0.0585**		**218.1707**	**218.1707**	**4.5200e-003**	**9.7000e-003**	**221.1737**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.9188	0.0000	8.9188	3.6337	0.0000	3.6337			0.0000			0.0000
Off-Road	2.5856	28.6596	14.7689	0.0438		1.1420	1.1420		1.0507	1.0507		4,236.4284	4,236.4284	1.3702		4,270.6821
Total	**2.5856**	**28.6596**	**14.7689**	**0.0438**	**8.9188**	**1.1420**	**10.0608**	**3.6337**	**1.0507**	**4.6843**		**4,236.4284**	**4,236.4284**	**1.3702**		**4,270.6821**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5301	24.1920	6.6525	0.1331	4.2398	0.2920	4.5318	1.1624	0.2794	1.4417		14,215.1255	14,215.1255	0.2016	2.2399	14,887.6671
Vendor	4.5100e-003	0.1307	0.0538	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.1084	74.1084	7.6000e-004	0.0110	77.3907
Worker	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653
Total	**0.5895**	**24.3566**	**7.2566**	**0.1353**	**4.4331**	**0.2939**	**4.7270**	**1.2142**	**0.2812**	**1.4954**		**14,440.1643**	**14,440.1643**	**0.2058**	**2.2544**	**15,117.1231**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4783	0.0000	3.4783	1.4171	0.0000	1.4171			0.0000			0.0000
Off-Road	2.5856	28.6596	14.7689	0.0438		1.1420	1.1420		1.0507	1.0507	0.0000	4,236.4284	4,236.4284	1.3702		4,270.6821
Total	**2.5856**	**28.6596**	**14.7689**	**0.0438**	**3.4783**	**1.1420**	**4.6204**	**1.4171**	**1.0507**	**2.4678**	**0.0000**	**4,236.4284**	**4,236.4284**	**1.3702**		**4,270.6821**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5301	24.1920	6.6525	0.1331	4.2398	0.2920	4.5318	1.1624	0.2794	1.4417		14,215.1255	14,215.1255	0.2016	2.2399	14,887.6671
Vendor	4.5100e-003	0.1307	0.0538	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.1084	74.1084	7.6000e-004	0.0110	77.3907
Worker	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653
Total	**0.5895**	**24.3566**	**7.2566**	**0.1353**	**4.4331**	**0.2939**	**4.7270**	**1.2142**	**0.2812**	**1.4954**		**14,440.1643**	**14,440.1643**	**0.2058**	**2.2544**	**15,117.1231**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6735	15.4377	17.3101	0.0288		0.7481	0.7481		0.7029	0.7029		2,738.1535	2,738.1535	0.6670		2,754.8288
Total	**1.6735**	**15.4377**	**17.3101**	**0.0288**		**0.7481**	**0.7481**		**0.7029**	**0.7029**		**2,738.1535**	**2,738.1535**	**0.6670**		**2,754.8288**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0485	1.4048	0.5785	7.5100e-003	0.2754	0.0122	0.2877	0.0793	0.0117	0.0910		796.6653	796.6653	8.1200e-003	0.1177	831.9499
Worker	0.7965	0.4922	7.9975	0.0214	2.4367	0.0114	2.4482	0.6462	0.0105	0.6568		2,193.5226	2,193.5226	0.0501	0.0511	2,210.0151
Total	**0.8449**	**1.8970**	**8.5760**	**0.0289**	**2.7122**	**0.0237**	**2.7358**	**0.7255**	**0.0222**	**0.7478**		**2,990.1879**	**2,990.1879**	**0.0582**	**0.1689**	**3,041.9651**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6735	15.4377	17.3101	0.0288		0.7481	0.7481		0.7029	0.7029	0.0000	2,738.1535	2,738.1535	0.6670		2,754.8288
Total	**1.6735**	**15.4377**	**17.3101**	**0.0288**		**0.7481**	**0.7481**		**0.7029**	**0.7029**	**0.0000**	**2,738.1535**	**2,738.1535**	**0.6670**		**2,754.8288**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0485	1.4048	0.5785	7.5100e-003	0.2754	0.0122	0.2877	0.0793	0.0117	0.0910		796.6653	796.6653	8.1200e-003	0.1177	831.9499
Worker	0.7965	0.4922	7.9975	0.0214	2.4367	0.0114	2.4482	0.6462	0.0105	0.6568		2,193.5226	2,193.5226	0.0501	0.0511	2,210.0151
Total	**0.8449**	**1.8970**	**8.5760**	**0.0289**	**2.7122**	**0.0237**	**2.7358**	**0.7255**	**0.0222**	**0.7478**		**2,990.1879**	**2,990.1879**	**0.0582**	**0.1689**	**3,041.9651**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3602**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5100e-003	0.1307	0.0538	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.1084	74.1084	7.6000e-004	0.0110	77.3907
Worker	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653
Total	**0.0593**	**0.1645**	**0.6041**	**2.1700e-003**	**0.1933**	**1.9300e-003**	**0.1952**	**0.0519**	**1.8100e-003**	**0.0537**		**225.0389**	**225.0389**	**4.2100e-003**	**0.0145**	**229.4560**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3602**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5100e-003	0.1307	0.0538	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.1084	74.1084	7.6000e-004	0.0110	77.3907
Worker	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653
Total	**0.0593**	**0.1645**	**0.6041**	**2.1700e-003**	**0.1933**	**1.9300e-003**	**0.1952**	**0.0519**	**1.8100e-003**	**0.0537**		**225.0389**	**225.0389**	**4.2100e-003**	**0.0145**	**229.4560**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3157**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4400e-003	0.1307	0.0532	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0800e-003	8.4600e-003		72.9662	72.9662	7.8000e-004	0.0108	76.1941
Worker	0.0511	0.0302	0.5153	1.4300e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		147.2888	147.2888	3.1200e-003	3.2700e-003	148.3411
Total	**0.0555**	**0.1609**	**0.5685**	**2.1200e-003**	**0.1933**	**1.8800e-003**	**0.1952**	**0.0519**	**1.7700e-003**	**0.0536**		**220.2551**	**220.2551**	**3.9000e-003**	**0.0140**	**224.5352**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3157**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4400e-003	0.1307	0.0532	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0800e-003	8.4600e-003		72.9662	72.9662	7.8000e-004	0.0108	76.1941
Worker	0.0511	0.0302	0.5153	1.4300e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		147.2888	147.2888	3.1200e-003	3.2700e-003	148.3411
Total	**0.0555**	**0.1609**	**0.5685**	**2.1200e-003**	**0.1933**	**1.8800e-003**	**0.1952**	**0.0519**	**1.7700e-003**	**0.0536**		**220.2551**	**220.2551**	**3.9000e-003**	**0.0140**	**224.5352**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.4026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812		375.2641	375.2641	0.0211		375.7923
Total	**49.6436**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**		**375.2641**	**375.2641**	**0.0211**		**375.7923**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4400e-003	0.1307	0.0532	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0800e-003	8.4600e-003		72.9662	72.9662	7.8000e-004	0.0108	76.1941
Worker	0.1499	0.0885	1.5115	4.1900e-003	0.4918	2.2000e-003	0.4940	0.1304	2.0300e-003	0.1325		432.0472	432.0472	9.1500e-003	9.5900e-003	435.1339
Total	**0.1543**	**0.2192**	**1.5646**	**4.8800e-003**	**0.5174**	**3.3300e-003**	**0.5208**	**0.1378**	**3.1100e-003**	**0.1409**		**505.0134**	**505.0134**	**9.9300e-003**	**0.0204**	**511.3280**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.4026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812	0.0000	375.2641	375.2641	0.0211		375.7923
Total	**49.6436**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**	**0.0000**	**375.2641**	**375.2641**	**0.0211**		**375.7923**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4400e-003	0.1307	0.0532	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0800e-003	8.4600e-003		72.9662	72.9662	7.8000e-004	0.0108	76.1941
Worker	0.1499	0.0885	1.5115	4.1900e-003	0.4918	2.2000e-003	0.4940	0.1304	2.0300e-003	0.1325		432.0472	432.0472	9.1500e-003	9.5900e-003	435.1339
Total	**0.1543**	**0.2192**	**1.5646**	**4.8800e-003**	**0.5174**	**3.3300e-003**	**0.5208**	**0.1378**	**3.1100e-003**	**0.1409**		**505.0134**	**505.0134**	**9.9300e-003**	**0.0204**	**511.3280**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Supermarket	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant with Drive	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Supermarket	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant with Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
High Turnover (Sit Down Restaurant)	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Strip Mall	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Supermarket	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Unmitigated	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**		**0.0688**	**0.0688**		**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**		**0.0688**	**0.0688**		**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Wildomar Crossroads (Construction - Unmitigated)

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.00	1000sqft	0.69	29,996.00	0
Other Non-Asphalt Surfaces	66.55	1000sqft	1.53	66,549.00	0
Parking Lot	477.00	Space	1.81	79,056.00	0
City Park	1.32	Acre	1.32	57,591.00	0
Fast Food Restaurant with Drive Thru	3.88	1000sqft	0.09	3,883.00	0
High Turnover (Sit Down Restaurant)	3.35	1000sqft	0.08	3,348.00	0
Apartments Mid Rise	150.00	Dwelling Unit	2.84	123,862.00	429
Strip Mall	5.09	1000sqft	0.12	5,087.00	0
Supermarket	23.10	1000sqft	0.53	23,104.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project area is 9.01 acres

Off-road Equipment - Hours are based on an 8-hour workday

Off-road Equipment - Hours are based on an 8-hour workday

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Off-road Equipment -

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Trips and VMT - CalEEMod only assumes Vendor Trips during Building Construction. The CalEEMod default trips were ratioed between each phase based on the number of days

Demolition -

Grading - For purposes of analysis, total acres graded per day is based on the equipment specific grading rates (CalEEMod Appendix A) and the equipment list

Architectural Coating - Rule 1113

Vehicle Trips - Construction run only

Woodstoves - Construction run only

Energy Use - Construction run only

Water And Wastewater - Construction run only

Solid Waste - Construction run only

Construction Off-road Equipment Mitigation - Rule 403

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	6.62	0.00
tblEnergyUse	LightingElect	6.62	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	5.61	0.00
tblEnergyUse	LightingElect	8.14	0.00
tblEnergyUse	NT24E	3,054.10	0.00
tblEnergyUse	NT24E	28.48	0.00
tblEnergyUse	NT24E	28.48	0.00
tblEnergyUse	NT24E	2.44	0.00
tblEnergyUse	NT24E	22.82	0.00
tblEnergyUse	NT24NG	6,030.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblEnergyUse	NT24NG	195.77	0.00
tblEnergyUse	NT24NG	195.77	0.00
tblEnergyUse	NT24NG	0.30	0.00
tblEnergyUse	NT24NG	6.61	0.00
tblEnergyUse	T24E	164.47	0.00
tblEnergyUse	T24E	11.06	0.00
tblEnergyUse	T24E	11.06	0.00
tblEnergyUse	T24E	4.09	0.00
tblEnergyUse	T24E	5.42	0.00
tblEnergyUse	T24NG	8,352.17	0.00
tblEnergyUse	T24NG	76.89	0.00
tblEnergyUse	T24NG	76.89	0.00
tblEnergyUse	T24NG	1.90	0.00
tblEnergyUse	T24NG	12.52	0.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	127.50	0.00
tblFireplaces	NumberNoFireplace	15.00	0.00
tblFireplaces	NumberWood	7.50	0.00
tblGrading	MaterialExported	0.00	38,761.00
tblLandUse	LandUseSquareFeet	190,800.00	79,056.00
tblLandUse	LandUseSquareFeet	57,586.32	57,591.00
tblLandUse	LandUseSquareFeet	150,000.00	123,862.00
tblLandUse	LotAcreage	4.29	1.81
tblLandUse	LotAcreage	3.95	2.84
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	69.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.11	0.00
tblSolidWaste	SolidWasteGenerationRate	44.69	0.00
tblSolidWaste	SolidWasteGenerationRate	39.87	0.00
tblSolidWaste	SolidWasteGenerationRate	5.34	0.00
tblSolidWaste	SolidWasteGenerationRate	130.28	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	60.00	43.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	78.80	0.00
tblVehicleTrips	CC_TTP	72.50	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CC_TTP	64.40	0.00
tblVehicleTrips	CC_TTP	74.50	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	2.20	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	CW_TTP	16.60	0.00
tblVehicleTrips	CW_TTP	6.50	0.00
tblVehicleTrips	DV_TP	11.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	86.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	29.00	0.00
tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	PR_TP	45.00	0.00
tblVehicleTrips	PR_TP	34.00	0.00
tblVehicleTrips	ST_TR	4.91	0.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	616.12	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	ST_TR	177.62	0.00

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	SU_TR	4.09	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	472.58	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	SU_TR	166.47	0.00
tblVehicleTrips	WD_TR	5.44	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	470.95	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	44.32	0.00
tblVehicleTrips	WD_TR	106.78	0.00
tblWater	IndoorWaterUseRate	9,773,103.84	0.00
tblWater	IndoorWaterUseRate	1,177,710.80	0.00
tblWater	IndoorWaterUseRate	1,016,837.94	0.00
tblWater	IndoorWaterUseRate	377,029.13	0.00
tblWater	IndoorWaterUseRate	2,847,495.76	0.00
tblWater	OutdoorWaterUseRate	6,161,304.60	0.00
tblWater	OutdoorWaterUseRate	1,572,755.38	0.00
tblWater	OutdoorWaterUseRate	75,173.03	0.00
tblWater	OutdoorWaterUseRate	64,904.55	0.00
tblWater	OutdoorWaterUseRate	231,082.37	0.00
tblWater	OutdoorWaterUseRate	88,066.88	0.00
tblWoodstoves	NumberCatalytic	7.50	0.00
tblWoodstoves	NumberNoncatalytic	7.50	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.5429	50.4821	21.1500	0.0589	21.9920	2.1586	24.1507	10.3885	1.9860	12.3745	0.0000	5,715.9050	5,715.9050	1.7866	0.0188	5,763.6750
2023	3.8894	54.4669	24.4021	0.1791	21.9920	1.7570	23.7490	10.3885	1.6165	12.0050	0.0000	18,684.8338	18,684.8338	1.7851	2.2580	19,397.0772
2024	49.7886	9.6945	15.0994	0.0248	0.5174	0.4704	0.6637	0.1378	0.4328	0.4847	0.0000	2,414.1776	2,414.1776	0.7179	0.0206	2,436.3395
Maximum	**49.7886**	**54.4669**	**24.4021**	**0.1791**	**21.9920**	**2.1586**	**24.1507**	**10.3885**	**1.9860**	**12.3745**	**0.0000**	**18,684.8338**	**18,684.8338**	**1.7866**	**2.2580**	**19,397.0772**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.5429	50.4821	21.1500	0.0589	8.7074	2.1586	10.8661	4.0863	1.9860	6.0723	0.0000	5,715.9050	5,715.9050	1.7866	0.0188	5,763.6750
2023	3.8894	54.4669	24.4021	0.1791	8.7074	1.7570	10.4644	4.0863	1.6165	5.7028	0.0000	18,684.8338	18,684.8338	1.7851	2.2580	19,397.0772
2024	49.7886	9.6945	15.0994	0.0248	0.5174	0.4704	0.6637	0.1378	0.4328	0.4847	0.0000	2,414.1776	2,414.1776	0.7179	0.0206	2,436.3395
Maximum	**49.7886**	**54.4669**	**24.4021**	**0.1791**	**8.7074**	**2.1586**	**10.8661**	**4.0863**	**1.9860**	**6.0723**	**0.0000**	**18,684.8338**	**18,684.8338**	**1.7866**	**2.2580**	**19,397.0772**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	59.70	0.00	54.71	60.27	0.00	50.69	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2022	12/28/2022	5	20	
2	Site Preparation	Site Preparation	12/29/2022	1/11/2023	5	10	
3	Grading	Grading	1/12/2023	2/8/2023	5	20	
4	Building Construction	Building Construction	2/9/2023	12/27/2023	5	230	
5	Paving	Paving	12/28/2023	1/24/2024	5	20	
6	Architectural Coating	Architectural Coating	1/25/2024	2/21/2024	5	20	

Acres of Grading (Site Preparation Phase): 35

Acres of Grading (Grading Phase): 50

Acres of Paving: 4.03

Residential Indoor: 250,821; Residential Outdoor: 83,607; Non-Residential Indoor: 53,133; Non-Residential Outdoor: 17,711; Striped Parking Area: 10,536 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	3	8.00	212	0.43
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	4.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	4.00	4,845.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	218.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0710	0.0000	0.0710	0.0108	0.0000	0.0108			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0710**	**1.2427**	**1.3137**	**0.0108**	**1.1553**	**1.1660**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0500e-003	0.0472	0.0102	2.0000e-004	6.1300e-003	5.2000e-004	6.6500e-003	1.6800e-003	5.0000e-004	2.1800e-003		21.4837	21.4837	2.9000e-004	3.3800e-003	22.4994
Vendor	6.2300e-003	0.1782	0.0611	7.3000e-004	0.0256	2.4400e-003	0.0281	7.3800e-003	2.3400e-003	9.7200e-003		77.2623	77.2623	8.0000e-004	0.0115	80.6995
Worker	0.0552	0.0398	0.4846	1.3800e-003	0.1677	8.4000e-004	0.1685	0.0445	7.7000e-004	0.0452		140.4261	140.4261	3.8100e-003	3.9000e-003	141.6847
Total	**0.0625**	**0.2651**	**0.5559**	**2.3100e-003**	**0.1994**	**3.8000e-003**	**0.2032**	**0.0535**	**3.6100e-003**	**0.0571**		**239.1721**	**239.1721**	**4.9000e-003**	**0.0188**	**244.8836**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0277	0.0000	0.0277	4.1900e-003	0.0000	4.1900e-003			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0277**	**1.2427**	**1.2704**	**4.1900e-003**	**1.1553**	**1.1595**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0500e-003	0.0472	0.0102	2.0000e-004	6.1300e-003	5.2000e-004	6.6500e-003	1.6800e-003	5.0000e-004	2.1800e-003		21.4837	21.4837	2.9000e-004	3.3800e-003	22.4994
Vendor	6.2300e-003	0.1782	0.0611	7.3000e-004	0.0256	2.4400e-003	0.0281	7.3800e-003	2.3400e-003	9.7200e-003		77.2623	77.2623	8.0000e-004	0.0115	80.6995
Worker	0.0552	0.0398	0.4846	1.3800e-003	0.1677	8.4000e-004	0.1685	0.0445	7.7000e-004	0.0452		140.4261	140.4261	3.8100e-003	3.9000e-003	141.6847
Total	**0.0625**	**0.2651**	**0.5559**	**2.3100e-003**	**0.1994**	**3.8000e-003**	**0.2032**	**0.0535**	**3.6100e-003**	**0.0571**		**239.1721**	**239.1721**	**4.9000e-003**	**0.0188**	**244.8836**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.7780	0.0000	21.7780	10.3315	0.0000	10.3315			0.0000			0.0000
Off-Road	4.4735	50.3453	19.9794	0.0569		2.1564	2.1564		1.9839	1.9839		5,508.7626	5,508.7626	1.7817		5,553.3037
Total	**4.4735**	**50.3453**	**19.9794**	**0.0569**	**21.7780**	**2.1564**	**23.9344**	**10.3315**	**1.9839**	**12.3154**		**5,508.7626**	**5,508.7626**	**1.7817**		**5,553.3037**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1200e-003	0.0891	0.0305	3.6000e-004	0.0128	1.2200e-003	0.0140	3.6900e-003	1.1700e-003	4.8600e-003		38.6312	38.6312	4.0000e-004	5.7300e-003	40.3497
Worker	0.0663	0.0477	0.5816	1.6600e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		168.5113	168.5113	4.5800e-003	4.6800e-003	170.0216
Total	**0.0694**	**0.1368**	**0.6121**	**2.0200e-003**	**0.2140**	**2.2200e-003**	**0.2162**	**0.0571**	**2.0900e-003**	**0.0591**		**207.1424**	**207.1424**	**4.9800e-003**	**0.0104**	**210.3713**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4934	0.0000	8.4934	4.0293	0.0000	4.0293			0.0000			0.0000
Off-Road	4.4735	50.3453	19.9794	0.0569		2.1564	2.1564		1.9839	1.9839	0.0000	5,508.7626	5,508.7626	1.7817		5,553.3037
Total	**4.4735**	**50.3453**	**19.9794**	**0.0569**	**8.4934**	**2.1564**	**10.6498**	**4.0293**	**1.9839**	**6.0132**	**0.0000**	**5,508.7626**	**5,508.7626**	**1.7817**		**5,553.3037**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1200e-003	0.0891	0.0305	3.6000e-004	0.0128	1.2200e-003	0.0140	3.6900e-003	1.1700e-003	4.8600e-003		38.6312	38.6312	4.0000e-004	5.7300e-003	40.3497
Worker	0.0663	0.0477	0.5816	1.6600e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		168.5113	168.5113	4.5800e-003	4.6800e-003	170.0216
Total	**0.0694**	**0.1368**	**0.6121**	**2.0200e-003**	**0.2140**	**2.2200e-003**	**0.2162**	**0.0571**	**2.0900e-003**	**0.0591**		**207.1424**	**207.1424**	**4.9800e-003**	**0.0104**	**210.3713**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.7780	0.0000	21.7780	10.3315	0.0000	10.3315			0.0000			0.0000
Off-Road	3.8257	41.8226	18.2686	0.0568		1.7555	1.7555		1.6151	1.6151		5,505.6246	5,505.6246	1.7806		5,550.1404
Total	**3.8257**	**41.8226**	**18.2686**	**0.0568**	**21.7780**	**1.7555**	**23.5335**	**10.3315**	**1.6151**	**11.9465**		**5,505.6246**	**5,505.6246**	**1.7806**		**5,550.1404**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0900e-003	0.0693	0.0278	3.5000e-004	0.0128	5.7000e-004	0.0134	3.6900e-003	5.5000e-004	4.2300e-003		37.1462	37.1462	3.7000e-004	5.4900e-003	38.7926
Worker	0.0616	0.0422	0.5362	1.6000e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		164.1079	164.1079	4.1200e-003	4.3200e-003	165.4988
Total	**0.0637**	**0.1115**	**0.5640**	**1.9500e-003**	**0.2140**	**1.5100e-003**	**0.2155**	**0.0571**	**1.4200e-003**	**0.0585**		**201.2540**	**201.2540**	**4.4900e-003**	**9.8100e-003**	**204.2914**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4934	0.0000	8.4934	4.0293	0.0000	4.0293			0.0000			0.0000
Off-Road	3.8257	41.8226	18.2686	0.0568		1.7555	1.7555		1.6151	1.6151	0.0000	5,505.6246	5,505.6246	1.7806		5,550.1404
Total	**3.8257**	**41.8226**	**18.2686**	**0.0568**	**8.4934**	**1.7555**	**10.2489**	**4.0293**	**1.6151**	**5.6443**	**0.0000**	**5,505.6246**	**5,505.6246**	**1.7806**		**5,550.1404**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0900e-003	0.0693	0.0278	3.5000e-004	0.0128	5.7000e-004	0.0134	3.6900e-003	5.5000e-004	4.2300e-003		37.1462	37.1462	3.7000e-004	5.4900e-003	38.7926
Worker	0.0616	0.0422	0.5362	1.6000e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		164.1079	164.1079	4.1200e-003	4.3200e-003	165.4988
Total	**0.0637**	**0.1115**	**0.5640**	**1.9500e-003**	**0.2140**	**1.5100e-003**	**0.2155**	**0.0571**	**1.4200e-003**	**0.0585**		**201.2540**	**201.2540**	**4.4900e-003**	**9.8100e-003**	**204.2914**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.9188	0.0000	8.9188	3.6337	0.0000	3.6337			0.0000			0.0000
Off-Road	2.5856	28.6596	14.7689	0.0438		1.1420	1.1420		1.0507	1.0507		4,236.4284	4,236.4284	1.3702		4,270.6821
Total	**2.5856**	**28.6596**	**14.7689**	**0.0438**	**8.9188**	**1.1420**	**10.0608**	**3.6337**	**1.0507**	**4.6843**		**4,236.4284**	**4,236.4284**	**1.3702**		**4,270.6821**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4873	25.6335	6.7926	0.1333	4.2398	0.2924	4.5322	1.1624	0.2797	1.4421		14,237.3565	14,237.3565	0.1996	2.2435	14,910.8944
Vendor	4.1800e-003	0.1386	0.0556	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.2923	74.2923	7.4000e-004	0.0110	77.5851
Worker	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157
Total	**0.5428**	**25.8073**	**7.2950**	**0.1354**	**4.4331**	**0.2943**	**4.7274**	**1.2142**	**0.2816**	**1.4958**		**14,448.4054**	**14,448.4054**	**0.2037**	**2.2580**	**15,126.3952**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.4783	0.0000	3.4783	1.4171	0.0000	1.4171			0.0000			0.0000
Off-Road	2.5856	28.6596	14.7689	0.0438		1.1420	1.1420		1.0507	1.0507	0.0000	4,236.4284	4,236.4284	1.3702		4,270.6821
Total	**2.5856**	**28.6596**	**14.7689**	**0.0438**	**3.4783**	**1.1420**	**4.6204**	**1.4171**	**1.0507**	**2.4678**	**0.0000**	**4,236.4284**	**4,236.4284**	**1.3702**		**4,270.6821**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4873	25.6335	6.7926	0.1333	4.2398	0.2924	4.5322	1.1624	0.2797	1.4421		14,237.3565	14,237.3565	0.1996	2.2435	14,910.8944
Vendor	4.1800e-003	0.1386	0.0556	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.2923	74.2923	7.4000e-004	0.0110	77.5851
Worker	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157
Total	**0.5428**	**25.8073**	**7.2950**	**0.1354**	**4.4331**	**0.2943**	**4.7274**	**1.2142**	**0.2816**	**1.4958**		**14,448.4054**	**14,448.4054**	**0.2037**	**2.2580**	**15,126.3952**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6735	15.4377	17.3101	0.0288		0.7481	0.7481		0.7029	0.7029		2,738.1535	2,738.1535	0.6670		2,754.8288
Total	**1.6735**	**15.4377**	**17.3101**	**0.0288**		**0.7481**	**0.7481**		**0.7029**	**0.7029**		**2,738.1535**	**2,738.1535**	**0.6670**		**2,754.8288**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0449	1.4899	0.5979	7.5300e-003	0.2754	0.0123	0.2877	0.0793	0.0118	0.0911		798.6424	798.6424	7.9600e-003	0.1181	834.0399
Worker	0.7465	0.5107	6.4941	0.0194	2.4367	0.0114	2.4482	0.6462	0.0105	0.6568		1,987.5285	1,987.5285	0.0499	0.0523	2,004.3743
Total	**0.7914**	**2.0005**	**7.0920**	**0.0270**	**2.7122**	**0.0237**	**2.7359**	**0.7255**	**0.0223**	**0.7478**		**2,786.1710**	**2,786.1710**	**0.0579**	**0.1705**	**2,838.4142**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6735	15.4377	17.3101	0.0288		0.7481	0.7481		0.7029	0.7029	0.0000	2,738.1535	2,738.1535	0.6670		2,754.8288
Total	**1.6735**	**15.4377**	**17.3101**	**0.0288**		**0.7481**	**0.7481**		**0.7029**	**0.7029**	**0.0000**	**2,738.1535**	**2,738.1535**	**0.6670**		**2,754.8288**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0449	1.4899	0.5979	7.5300e-003	0.2754	0.0123	0.2877	0.0793	0.0118	0.0911		798.6424	798.6424	7.9600e-003	0.1181	834.0399
Worker	0.7465	0.5107	6.4941	0.0194	2.4367	0.0114	2.4482	0.6462	0.0105	0.6568		1,987.5285	1,987.5285	0.0499	0.0523	2,004.3743
Total	**0.7914**	**2.0005**	**7.0920**	**0.0270**	**2.7122**	**0.0237**	**2.7359**	**0.7255**	**0.0223**	**0.7478**		**2,786.1710**	**2,786.1710**	**0.0579**	**0.1705**	**2,838.4142**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3602**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1800e-003	0.1386	0.0556	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.2923	74.2923	7.4000e-004	0.0110	77.5851
Worker	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157
Total	**0.0556**	**0.1737**	**0.5025**	**2.0400e-003**	**0.1933**	**1.9300e-003**	**0.1952**	**0.0519**	**1.8100e-003**	**0.0537**		**211.0489**	**211.0489**	**4.1700e-003**	**0.0146**	**215.5008**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3602**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1800e-003	0.1386	0.0556	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.2923	74.2923	7.4000e-004	0.0110	77.5851
Worker	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157
Total	**0.0556**	**0.1737**	**0.5025**	**2.0400e-003**	**0.1933**	**1.9300e-003**	**0.1952**	**0.0519**	**1.8100e-003**	**0.0537**		**211.0489**	**211.0489**	**4.1700e-003**	**0.0146**	**215.5008**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3157**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1100e-003	0.1386	0.0550	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0900e-003	8.4600e-003		73.1486	73.1486	7.7000e-004	0.0108	76.3866
Worker	0.0480	0.0313	0.4186	1.2900e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		133.4818	133.4818	3.1200e-003	3.3500e-003	134.5565
Total	**0.0521**	**0.1699**	**0.4736**	**1.9800e-003**	**0.1933**	**1.8800e-003**	**0.1952**	**0.0519**	**1.7800e-003**	**0.0536**		**206.6304**	**206.6304**	**3.8900e-003**	**0.0142**	**210.9432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3157**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1100e-003	0.1386	0.0550	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0900e-003	8.4600e-003		73.1486	73.1486	7.7000e-004	0.0108	76.3866
Worker	0.0480	0.0313	0.4186	1.2900e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		133.4818	133.4818	3.1200e-003	3.3500e-003	134.5565
Total	**0.0521**	**0.1699**	**0.4736**	**1.9800e-003**	**0.1933**	**1.8800e-003**	**0.1952**	**0.0519**	**1.7800e-003**	**0.0536**		**206.6304**	**206.6304**	**3.8900e-003**	**0.0142**	**210.9432**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.4026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812		375.2641	375.2641	0.0211		375.7923
Total	**49.6436**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**		**375.2641**	**375.2641**	**0.0211**		**375.7923**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1100e-003	0.1386	0.0550	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0900e-003	8.4600e-003		73.1486	73.1486	7.7000e-004	0.0108	76.3866
Worker	0.1409	0.0918	1.2279	3.8000e-003	0.4918	2.2000e-003	0.4940	0.1304	2.0300e-003	0.1325		391.5466	391.5466	9.1400e-003	9.8100e-003	394.6992
Total	**0.1450**	**0.2304**	**1.2829**	**4.4900e-003**	**0.5174**	**3.3300e-003**	**0.5208**	**0.1378**	**3.1200e-003**	**0.1409**		**464.6951**	**464.6951**	**9.9100e-003**	**0.0206**	**471.0858**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.4026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812	0.0000	375.2641	375.2641	0.0211		375.7923
Total	**49.6436**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**	**0.0000**	**375.2641**	**375.2641**	**0.0211**		**375.7923**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1100e-003	0.1386	0.0550	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0900e-003	8.4600e-003		73.1486	73.1486	7.7000e-004	0.0108	76.3866
Worker	0.1409	0.0918	1.2279	3.8000e-003	0.4918	2.2000e-003	0.4940	0.1304	2.0300e-003	0.1325		391.5466	391.5466	9.1400e-003	9.8100e-003	394.6992
Total	**0.1450**	**0.2304**	**1.2829**	**4.4900e-003**	**0.5174**	**3.3300e-003**	**0.5208**	**0.1378**	**3.1200e-003**	**0.1409**		**464.6951**	**464.6951**	**9.9100e-003**	**0.0206**	**471.0858**

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Supermarket	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Supermarket	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant with Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
High Turnover (Sit Down Restaurant)	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Strip Mall	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Supermarket	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Wildomar Crossroads (Construction - Unmitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Unmitigated	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**		**0.0688**	**0.0688**		**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**		**0.0688**	**0.0688**		**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

This page intentionally left blank

APPENDIX 3.2:

CALEEMOD CONSTRUCTION (MITIGATED) EMISSIONS MODEL OUTPUTS

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Wildomar Crossroads (Construction - Mitigated)

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.00	1000sqft	0.69	29,996.00	0
Other Non-Asphalt Surfaces	66.55	1000sqft	1.53	66,549.00	0
Parking Lot	477.00	Space	1.81	79,056.00	0
City Park	1.32	Acre	1.32	57,591.00	0
Fast Food Restaurant with Drive Thru	3.88	1000sqft	0.09	3,883.00	0
High Turnover (Sit Down Restaurant)	3.35	1000sqft	0.08	3,348.00	0
Apartments Mid Rise	150.00	Dwelling Unit	2.84	123,862.00	429
Strip Mall	5.09	1000sqft	0.12	5,087.00	0
Supermarket	23.10	1000sqft	0.53	23,104.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project area is 9.01 acres

Off-road Equipment - Hours are based on an 8-hour workday

Off-road Equipment - Hours are based on an 8-hour workday

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Off-road Equipment -

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Trips and VMT - CalEEMod only assumes Vendor Trips during Building Construction. The CalEEMod default trips were ratioed between each phase based on the number of days

Demolition -

Grading - For purposes of analysis, total acres graded per day is based on the equipment specific grading rates (CalEEMod Appendix A) and the equipment list

Architectural Coating - Rule 1113

Vehicle Trips - Construction run only

Woodstoves - Construction run only

Energy Use - Construction run only

Water And Wastewater - Construction run only

Solid Waste - Construction run only

Construction Off-road Equipment Mitigation - MM AQ-1: Tier 3 for all equipment operating at >150 HP during Site Preparation activities; MM AQ-2: Increase watering to 4 times per day

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	6.62	0.00
tblEnergyUse	LightingElect	6.62	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	5.61	0.00
tblEnergyUse	LightingElect	8.14	0.00
tblEnergyUse	NT24E	3,054.10	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblEnergyUse	NT24E	28.48	0.00
tblEnergyUse	NT24E	28.48	0.00
tblEnergyUse	NT24E	2.44	0.00
tblEnergyUse	NT24E	22.82	0.00
tblEnergyUse	NT24NG	6,030.00	0.00
tblEnergyUse	NT24NG	195.77	0.00
tblEnergyUse	NT24NG	195.77	0.00
tblEnergyUse	NT24NG	0.30	0.00
tblEnergyUse	NT24NG	6.61	0.00
tblEnergyUse	T24E	164.47	0.00
tblEnergyUse	T24E	11.06	0.00
tblEnergyUse	T24E	11.06	0.00
tblEnergyUse	T24E	4.09	0.00
tblEnergyUse	T24E	5.42	0.00
tblEnergyUse	T24NG	8,352.17	0.00
tblEnergyUse	T24NG	76.89	0.00
tblEnergyUse	T24NG	76.89	0.00
tblEnergyUse	T24NG	1.90	0.00
tblEnergyUse	T24NG	12.52	0.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	127.50	0.00
tblFireplaces	NumberNoFireplace	15.00	0.00
tblFireplaces	NumberWood	7.50	0.00
tblGrading	MaterialExported	0.00	38,761.00
tblLandUse	LandUseSquareFeet	190,800.00	79,056.00
tblLandUse	LandUseSquareFeet	57,586.32	57,591.00
tblLandUse	LandUseSquareFeet	150,000.00	123,862.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	4.29	1.81
tblLandUse	LotAcreage	3.95	2.84
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	69.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.11	0.00
tblSolidWaste	SolidWasteGenerationRate	44.69	0.00
tblSolidWaste	SolidWasteGenerationRate	39.87	0.00
tblSolidWaste	SolidWasteGenerationRate	5.34	0.00
tblSolidWaste	SolidWasteGenerationRate	130.28	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	60.00	43.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	78.80	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CC_TTP	64.40	0.00
tblVehicleTrips	CC_TTP	74.50	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CW_TTP	2.20	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	CW_TTP	16.60	0.00
tblVehicleTrips	CW_TTP	6.50	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	86.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	29.00	0.00
tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	PR_TP	45.00	0.00
tblVehicleTrips	PR_TP	34.00	0.00
tblVehicleTrips	ST_TR	4.91	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	616.12	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	ST_TR	177.62	0.00
tblVehicleTrips	SU_TR	4.09	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	472.58	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	SU_TR	166.47	0.00
tblVehicleTrips	WD_TR	5.44	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	470.95	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	44.32	0.00
tblVehicleTrips	WD_TR	106.78	0.00
tblWater	IndoorWaterUseRate	9,773,103.84	0.00
tblWater	IndoorWaterUseRate	1,177,710.80	0.00
tblWater	IndoorWaterUseRate	1,016,837.94	0.00
tblWater	IndoorWaterUseRate	377,029.13	0.00
tblWater	IndoorWaterUseRate	2,847,495.76	0.00
tblWater	OutdoorWaterUseRate	6,161,304.60	0.00
tblWater	OutdoorWaterUseRate	1,572,755.38	0.00
tblWater	OutdoorWaterUseRate	75,173.03	0.00
tblWater	OutdoorWaterUseRate	64,904.55	0.00
tblWater	OutdoorWaterUseRate	231,082.37	0.00
tblWater	OutdoorWaterUseRate	88,066.88	0.00
tblWoodstoves	NumberCatalytic	7.50	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWoodstoves	NumberNoncatalytic	7.50	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.5477	50.4758	21.2608	0.0591	21.9920	2.1586	24.1507	10.3885	1.9860	12.3745	0.0000	5,733.3887	5,733.3887	1.7867	0.0186	5,781.1241
2023	3.8937	53.0162	25.8860	0.1790	21.9920	1.7570	23.7490	10.3885	1.6165	12.0050	0.0000	18,676.5927	18,676.5927	1.7852	2.2544	19,387.8051
2024	49.7979	9.6855	15.1942	0.0249	0.5174	0.4704	0.6637	0.1378	0.4328	0.4847	0.0000	2,427.8023	2,427.8023	0.7179	0.0204	2,449.9315
Maximum	**49.7979**	**53.0162**	**25.8860**	**0.1790**	**21.9920**	**2.1586**	**24.1507**	**10.3885**	**1.9860**	**12.3745**	**0.0000**	**18,676.5927**	**18,676.5927**	**1.7867**	**2.2544**	**19,387.8051**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.9259	38.1705	26.3906	0.0591	5.8763	1.5688	7.4451	2.7432	1.4875	4.2307	0.0000	5,733.3887	5,733.3887	1.7867	0.0186	5,781.1241
2023	2.6092	49.0960	26.0399	0.1790	6.7520	1.3755	8.0065	2.7432	1.3096	4.0528	0.0000	18,676.5927	18,676.5927	1.7852	2.2544	19,387.8051
2024	49.7979	9.6855	15.1942	0.0249	0.5174	0.4704	0.6637	0.1378	0.4328	0.4847	0.0000	2,427.8023	2,427.8023	0.7179	0.0204	2,449.9315
Maximum	**49.7979**	**49.0960**	**26.3906**	**0.1790**	**6.7520**	**1.5688**	**8.0065**	**2.7432**	**1.4875**	**4.2307**	**0.0000**	**18,676.5927**	**18,676.5927**	**1.7867**	**2.2544**	**19,387.8051**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	4.99	14.34	-8.48	0.00	70.46	22.15	66.82	73.11	19.96	64.74	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2022	12/28/2022	5	20	
2	Site Preparation	Site Preparation	12/29/2022	1/11/2023	5	10	
3	Grading	Grading	1/12/2023	2/8/2023	5	20	
4	Building Construction	Building Construction	2/9/2023	12/27/2023	5	230	
5	Paving	Paving	12/28/2023	1/24/2024	5	20	
6	Architectural Coating	Architectural Coating	1/25/2024	2/21/2024	5	20	

Acres of Grading (Site Preparation Phase): 35

Acres of Grading (Grading Phase): 50

Acres of Paving: 4.03

Residential Indoor: 250,821; Residential Outdoor: 83,607; Non-Residential Indoor: 53,133; Non-Residential Outdoor: 17,711; Striped Parking Area: 10,536 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	3	8.00	212	0.43
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	4.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	4.00	4,845.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	218.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0710	0.0000	0.0710	0.0108	0.0000	0.0108			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0710**	**1.2427**	**1.3137**	**0.0108**	**1.1553**	**1.1660**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1100e-003	0.0447	9.9400e-003	2.0000e-004	6.1300e-003	5.2000e-004	6.6500e-003	1.6800e-003	5.0000e-004	2.1800e-003		21.4673	21.4673	2.9000e-004	3.3800e-003	22.4823
Vendor	6.5100e-003	0.1691	0.0588	7.3000e-004	0.0256	2.4400e-003	0.0281	7.3800e-003	2.3300e-003	9.7100e-003		77.1781	77.1781	8.2000e-004	0.0115	80.6092
Worker	0.0591	0.0383	0.5980	1.5200e-003	0.1677	8.4000e-004	0.1685	0.0445	7.7000e-004	0.0452		155.0309	155.0309	3.8400e-003	3.8100e-003	156.2632
Total	**0.0667**	**0.2522**	**0.6667**	**2.4500e-003**	**0.1994**	**3.8000e-003**	**0.2032**	**0.0535**	**3.6000e-003**	**0.0571**		**253.6763**	**253.6763**	**4.9500e-003**	**0.0186**	**259.3547**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0185	0.0000	0.0185	2.8000e-003	0.0000	2.8000e-003			0.0000			0.0000
Off-Road	2.0112	20.9684	21.5427	0.0388		0.9786	0.9786		0.9246	0.9246	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.0112**	**20.9684**	**21.5427**	**0.0388**	**0.0185**	**0.9786**	**0.9971**	**2.8000e-003**	**0.9246**	**0.9274**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1100e-003	0.0447	9.9400e-003	2.0000e-004	6.1300e-003	5.2000e-004	6.6500e-003	1.6800e-003	5.0000e-004	2.1800e-003		21.4673	21.4673	2.9000e-004	3.3800e-003	22.4823
Vendor	6.5100e-003	0.1691	0.0588	7.3000e-004	0.0256	2.4400e-003	0.0281	7.3800e-003	2.3300e-003	9.7100e-003		77.1781	77.1781	8.2000e-004	0.0115	80.6092
Worker	0.0591	0.0383	0.5980	1.5200e-003	0.1677	8.4000e-004	0.1685	0.0445	7.7000e-004	0.0452		155.0309	155.0309	3.8400e-003	3.8100e-003	156.2632
Total	**0.0667**	**0.2522**	**0.6667**	**2.4500e-003**	**0.1994**	**3.8000e-003**	**0.2032**	**0.0535**	**3.6000e-003**	**0.0571**		**253.6763**	**253.6763**	**4.9500e-003**	**0.0186**	**259.3547**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.7780	0.0000	21.7780	10.3315	0.0000	10.3315			0.0000			0.0000
Off-Road	4.4735	50.3453	19.9794	0.0569		2.1564	2.1564		1.9839	1.9839		5,508.7626	5,508.7626	1.7817		5,553.3037
Total	**4.4735**	**50.3453**	**19.9794**	**0.0569**	**21.7780**	**2.1564**	**23.9344**	**10.3315**	**1.9839**	**12.3154**		**5,508.7626**	**5,508.7626**	**1.7817**		**5,553.3037**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2500e-003	0.0846	0.0294	3.6000e-004	0.0128	1.2200e-003	0.0140	3.6900e-003	1.1700e-003	4.8600e-003		38.5891	38.5891	4.1000e-004	5.7200e-003	40.3046
Worker	0.0709	0.0460	0.7176	1.8300e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		186.0370	186.0370	4.6100e-003	4.5800e-003	187.5158
Total	**0.0742**	**0.1305**	**0.7470**	**2.1900e-003**	**0.2140**	**2.2200e-003**	**0.2162**	**0.0571**	**2.0900e-003**	**0.0591**		**224.6261**	**224.6261**	**5.0200e-003**	**0.0103**	**227.8204**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.6623	0.0000	5.6623	2.6862	0.0000	2.6862			0.0000			0.0000
Off-Road	2.8517	38.0400	25.6436	0.0569		1.5666	1.5666		1.4854	1.4854	0.0000	5,508.7626	5,508.7626	1.7817		5,553.3037
Total	**2.8517**	**38.0400**	**25.6436**	**0.0569**	**5.6623**	**1.5666**	**7.2289**	**2.6862**	**1.4854**	**4.1716**	**0.0000**	**5,508.7626**	**5,508.7626**	**1.7817**		**5,553.3037**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2500e-003	0.0846	0.0294	3.6000e-004	0.0128	1.2200e-003	0.0140	3.6900e-003	1.1700e-003	4.8600e-003		38.5891	38.5891	4.1000e-004	5.7200e-003	40.3046
Worker	0.0709	0.0460	0.7176	1.8300e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		186.0370	186.0370	4.6100e-003	4.5800e-003	187.5158
Total	**0.0742**	**0.1305**	**0.7470**	**2.1900e-003**	**0.2140**	**2.2200e-003**	**0.2162**	**0.0571**	**2.0900e-003**	**0.0591**		**224.6261**	**224.6261**	**5.0200e-003**	**0.0103**	**227.8204**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.7780	0.0000	21.7780	10.3315	0.0000	10.3315			0.0000			0.0000
Off-Road	3.8257	41.8226	18.2686	0.0568		1.7555	1.7555		1.6151	1.6151		5,505.6246	5,505.6246	1.7806		5,550.1404
Total	**3.8257**	**41.8226**	**18.2686**	**0.0568**	**21.7780**	**1.7555**	**23.5335**	**10.3315**	**1.6151**	**11.9465**		**5,505.6246**	**5,505.6246**	**1.7806**		**5,550.1404**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2500e-003	0.0653	0.0269	3.5000e-004	0.0128	5.7000e-004	0.0134	3.6900e-003	5.4000e-004	4.2300e-003		37.0542	37.0542	3.8000e-004	5.4800e-003	38.6954
Worker	0.0658	0.0406	0.6603	1.7700e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		181.1165	181.1165	4.1400e-003	4.2200e-003	182.4783
Total	**0.0680**	**0.1060**	**0.6872**	**2.1200e-003**	**0.2140**	**1.5100e-003**	**0.2155**	**0.0571**	**1.4100e-003**	**0.0585**		**218.1707**	**218.1707**	**4.5200e-003**	**9.7000e-003**	**221.1737**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.6623	0.0000	5.6623	2.6862	0.0000	2.6862			0.0000			0.0000
Off-Road	2.5412	34.0252	24.8081	0.0568		1.3740	1.3740		1.3082	1.3082	0.0000	5,505.6246	5,505.6246	1.7806		5,550.1404
Total	**2.5412**	**34.0252**	**24.8081**	**0.0568**	**5.6623**	**1.3740**	**7.0362**	**2.6862**	**1.3082**	**3.9944**	**0.0000**	**5,505.6246**	**5,505.6246**	**1.7806**		**5,550.1404**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2500e-003	0.0653	0.0269	3.5000e-004	0.0128	5.7000e-004	0.0134	3.6900e-003	5.4000e-004	4.2300e-003		37.0542	37.0542	3.8000e-004	5.4800e-003	38.6954
Worker	0.0658	0.0406	0.6603	1.7700e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		181.1165	181.1165	4.1400e-003	4.2200e-003	182.4783
Total	**0.0680**	**0.1060**	**0.6872**	**2.1200e-003**	**0.2140**	**1.5100e-003**	**0.2155**	**0.0571**	**1.4100e-003**	**0.0585**		**218.1707**	**218.1707**	**4.5200e-003**	**9.7000e-003**	**221.1737**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.9188	0.0000	8.9188	3.6337	0.0000	3.6337			0.0000			0.0000
Off-Road	2.5856	28.6596	14.7689	0.0438		1.1420	1.1420		1.0507	1.0507		4,236.4284	4,236.4284	1.3702		4,270.6821
Total	**2.5856**	**28.6596**	**14.7689**	**0.0438**	**8.9188**	**1.1420**	**10.0608**	**3.6337**	**1.0507**	**4.6843**		**4,236.4284**	**4,236.4284**	**1.3702**		**4,270.6821**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5301	24.1920	6.6525	0.1331	4.2398	0.2920	4.5318	1.1624	0.2794	1.4417		14,215.1255	14,215.1255	0.2016	2.2399	14,887.6671
Vendor	4.5100e-003	0.1307	0.0538	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.1084	74.1084	7.6000e-004	0.0110	77.3907
Worker	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653
Total	**0.5895**	**24.3566**	**7.2566**	**0.1353**	**4.4331**	**0.2939**	**4.7270**	**1.2142**	**0.2812**	**1.4954**		**14,440.1643**	**14,440.1643**	**0.2058**	**2.2544**	**15,117.1231**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3189	0.0000	2.3189	0.9448	0.0000	0.9448			0.0000			0.0000
Off-Road	1.9194	24.7394	18.7834	0.0438		0.9606	0.9606		0.9092	0.9092	0.0000	4,236.4284	4,236.4284	1.3702		4,270.6821
Total	**1.9194**	**24.7394**	**18.7834**	**0.0438**	**2.3189**	**0.9606**	**3.2795**	**0.9448**	**0.9092**	**1.8540**	**0.0000**	**4,236.4284**	**4,236.4284**	**1.3702**		**4,270.6821**

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.5301	24.1920	6.6525	0.1331	4.2398	0.2920	4.5318	1.1624	0.2794	1.4417		14,215.1255	14,215.1255	0.2016	2.2399	14,887.6671
Vendor	4.5100e-003	0.1307	0.0538	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.1084	74.1084	7.6000e-004	0.0110	77.3907
Worker	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653
Total	**0.5895**	**24.3566**	**7.2566**	**0.1353**	**4.4331**	**0.2939**	**4.7270**	**1.2142**	**0.2812**	**1.4954**		**14,440.1643**	**14,440.1643**	**0.2058**	**2.2544**	**15,117.1231**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6735	15.4377	17.3101	0.0288		0.7481	0.7481		0.7029	0.7029		2,738.1535	2,738.1535	0.6670		2,754.8288
Total	**1.6735**	**15.4377**	**17.3101**	**0.0288**		**0.7481**	**0.7481**		**0.7029**	**0.7029**		**2,738.1535**	**2,738.1535**	**0.6670**		**2,754.8288**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0485	1.4048	0.5785	7.5100e-003	0.2754	0.0122	0.2877	0.0793	0.0117	0.0910		796.6653	796.6653	8.1200e-003	0.1177	831.9499
Worker	0.7965	0.4922	7.9975	0.0214	2.4367	0.0114	2.4482	0.6462	0.0105	0.6568		2,193.5226	2,193.5226	0.0501	0.0511	2,210.0151
Total	**0.8449**	**1.8970**	**8.5760**	**0.0289**	**2.7122**	**0.0237**	**2.7358**	**0.7255**	**0.0222**	**0.7478**		**2,990.1879**	**2,990.1879**	**0.0582**	**0.1689**	**3,041.9651**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6735	15.4377	17.3101	0.0288		0.7481	0.7481		0.7029	0.7029	0.0000	2,738.1535	2,738.1535	0.6670		2,754.8288
Total	**1.6735**	**15.4377**	**17.3101**	**0.0288**		**0.7481**	**0.7481**		**0.7029**	**0.7029**	**0.0000**	**2,738.1535**	**2,738.1535**	**0.6670**		**2,754.8288**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0485	1.4048	0.5785	7.5100e-003	0.2754	0.0122	0.2877	0.0793	0.0117	0.0910		796.6653	796.6653	8.1200e-003	0.1177	831.9499
Worker	0.7965	0.4922	7.9975	0.0214	2.4367	0.0114	2.4482	0.6462	0.0105	0.6568		2,193.5226	2,193.5226	0.0501	0.0511	2,210.0151
Total	**0.8449**	**1.8970**	**8.5760**	**0.0289**	**2.7122**	**0.0237**	**2.7358**	**0.7255**	**0.0222**	**0.7478**		**2,990.1879**	**2,990.1879**	**0.0582**	**0.1689**	**3,041.9651**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3602**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5100e-003	0.1307	0.0538	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.1084	74.1084	7.6000e-004	0.0110	77.3907
Worker	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653
Total	**0.0593**	**0.1645**	**0.6041**	**2.1700e-003**	**0.1933**	**1.9300e-003**	**0.1952**	**0.0519**	**1.8100e-003**	**0.0537**		**225.0389**	**225.0389**	**4.2100e-003**	**0.0145**	**229.4560**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3602**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.5100e-003	0.1307	0.0538	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.1084	74.1084	7.6000e-004	0.0110	77.3907
Worker	0.0548	0.0339	0.5503	1.4700e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		150.9305	150.9305	3.4500e-003	3.5200e-003	152.0653
Total	**0.0593**	**0.1645**	**0.6041**	**2.1700e-003**	**0.1933**	**1.9300e-003**	**0.1952**	**0.0519**	**1.8100e-003**	**0.0537**		**225.0389**	**225.0389**	**4.2100e-003**	**0.0145**	**229.4560**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3157**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4400e-003	0.1307	0.0532	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0800e-003	8.4600e-003		72.9662	72.9662	7.8000e-004	0.0108	76.1941
Worker	0.0511	0.0302	0.5153	1.4300e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		147.2888	147.2888	3.1200e-003	3.2700e-003	148.3411
Total	**0.0555**	**0.1609**	**0.5685**	**2.1200e-003**	**0.1933**	**1.8800e-003**	**0.1952**	**0.0519**	**1.7700e-003**	**0.0536**		**220.2551**	**220.2551**	**3.9000e-003**	**0.0140**	**224.5352**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3157**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4400e-003	0.1307	0.0532	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0800e-003	8.4600e-003		72.9662	72.9662	7.8000e-004	0.0108	76.1941
Worker	0.0511	0.0302	0.5153	1.4300e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		147.2888	147.2888	3.1200e-003	3.2700e-003	148.3411
Total	**0.0555**	**0.1609**	**0.5685**	**2.1200e-003**	**0.1933**	**1.8800e-003**	**0.1952**	**0.0519**	**1.7700e-003**	**0.0536**		**220.2551**	**220.2551**	**3.9000e-003**	**0.0140**	**224.5352**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.4026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812		375.2641	375.2641	0.0211		375.7923
Total	**49.6436**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**		**375.2641**	**375.2641**	**0.0211**		**375.7923**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4400e-003	0.1307	0.0532	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0800e-003	8.4600e-003		72.9662	72.9662	7.8000e-004	0.0108	76.1941
Worker	0.1499	0.0885	1.5115	4.1900e-003	0.4918	2.2000e-003	0.4940	0.1304	2.0300e-003	0.1325		432.0472	432.0472	9.1500e-003	9.5900e-003	435.1339
Total	**0.1543**	**0.2192**	**1.5646**	**4.8800e-003**	**0.5174**	**3.3300e-003**	**0.5208**	**0.1378**	**3.1100e-003**	**0.1409**		**505.0134**	**505.0134**	**9.9300e-003**	**0.0204**	**511.3280**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.4026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812	0.0000	375.2641	375.2641	0.0211		375.7923
Total	**49.6436**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**	**0.0000**	**375.2641**	**375.2641**	**0.0211**		**375.7923**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4400e-003	0.1307	0.0532	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0800e-003	8.4600e-003		72.9662	72.9662	7.8000e-004	0.0108	76.1941
Worker	0.1499	0.0885	1.5115	4.1900e-003	0.4918	2.2000e-003	0.4940	0.1304	2.0300e-003	0.1325		432.0472	432.0472	9.1500e-003	9.5900e-003	435.1339
Total	**0.1543**	**0.2192**	**1.5646**	**4.8800e-003**	**0.5174**	**3.3300e-003**	**0.5208**	**0.1378**	**3.1100e-003**	**0.1409**		**505.0134**	**505.0134**	**9.9300e-003**	**0.0204**	**511.3280**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Supermarket	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant with Drive	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Supermarket	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant with Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
High Turnover (Sit Down Restaurant)	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Strip Mall	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Supermarket	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Unmitigated	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**		**0.0688**	**0.0688**		**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**		**0.0688**	**0.0688**		**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Wildomar Crossroads (Construction - Mitigated)

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.00	1000sqft	0.69	29,996.00	0
Other Non-Asphalt Surfaces	66.55	1000sqft	1.53	66,549.00	0
Parking Lot	477.00	Space	1.81	79,056.00	0
City Park	1.32	Acre	1.32	57,591.00	0
Fast Food Restaurant with Drive Thru	3.88	1000sqft	0.09	3,883.00	0
High Turnover (Sit Down Restaurant)	3.35	1000sqft	0.08	3,348.00	0
Apartments Mid Rise	150.00	Dwelling Unit	2.84	123,862.00	429
Strip Mall	5.09	1000sqft	0.12	5,087.00	0
Supermarket	23.10	1000sqft	0.53	23,104.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project area is 9.01 acres

Off-road Equipment - Hours are based on an 8-hour workday

Off-road Equipment - Hours are based on an 8-hour workday

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Off-road Equipment -

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Trips and VMT - CalEEMod only assumes Vendor Trips during Building Construction. The CalEEMod default trips were ratioed between each phase based on the number of days

Demolition -

Grading - For purposes of analysis, total acres graded per day is based on the equipment specific grading rates (CalEEMod Appendix A) and the equipment list

Architectural Coating - Rule 1113

Vehicle Trips - Construction run only

Woodstoves - Construction run only

Energy Use - Construction run only

Water And Wastewater - Construction run only

Solid Waste - Construction run only

Construction Off-road Equipment Mitigation - MM AQ-1: Tier 3 for all equipment operating at >150 HP during Site Preparation activities; MM AQ-2: Increase watering to 4 times per day

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	6.62	0.00
tblEnergyUse	LightingElect	6.62	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	5.61	0.00
tblEnergyUse	LightingElect	8.14	0.00
tblEnergyUse	NT24E	3,054.10	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblEnergyUse	NT24E	28.48	0.00
tblEnergyUse	NT24E	28.48	0.00
tblEnergyUse	NT24E	2.44	0.00
tblEnergyUse	NT24E	22.82	0.00
tblEnergyUse	NT24NG	6,030.00	0.00
tblEnergyUse	NT24NG	195.77	0.00
tblEnergyUse	NT24NG	195.77	0.00
tblEnergyUse	NT24NG	0.30	0.00
tblEnergyUse	NT24NG	6.61	0.00
tblEnergyUse	T24E	164.47	0.00
tblEnergyUse	T24E	11.06	0.00
tblEnergyUse	T24E	11.06	0.00
tblEnergyUse	T24E	4.09	0.00
tblEnergyUse	T24E	5.42	0.00
tblEnergyUse	T24NG	8,352.17	0.00
tblEnergyUse	T24NG	76.89	0.00
tblEnergyUse	T24NG	76.89	0.00
tblEnergyUse	T24NG	1.90	0.00
tblEnergyUse	T24NG	12.52	0.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	127.50	0.00
tblFireplaces	NumberNoFireplace	15.00	0.00
tblFireplaces	NumberWood	7.50	0.00
tblGrading	MaterialExported	0.00	38,761.00
tblLandUse	LandUseSquareFeet	190,800.00	79,056.00
tblLandUse	LandUseSquareFeet	57,586.32	57,591.00
tblLandUse	LandUseSquareFeet	150,000.00	123,862.00

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	4.29	1.81
tblLandUse	LotAcreage	3.95	2.84
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	69.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.11	0.00
tblSolidWaste	SolidWasteGenerationRate	44.69	0.00
tblSolidWaste	SolidWasteGenerationRate	39.87	0.00
tblSolidWaste	SolidWasteGenerationRate	5.34	0.00
tblSolidWaste	SolidWasteGenerationRate	130.28	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	60.00	43.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	78.80	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CC_TTP	64.40	0.00
tblVehicleTrips	CC_TTP	74.50	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CW_TTP	2.20	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	CW_TTP	16.60	0.00
tblVehicleTrips	CW_TTP	6.50	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	86.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	29.00	0.00
tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	PR_TP	45.00	0.00
tblVehicleTrips	PR_TP	34.00	0.00
tblVehicleTrips	ST_TR	4.91	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	616.12	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	ST_TR	177.62	0.00
tblVehicleTrips	SU_TR	4.09	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	472.58	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	SU_TR	166.47	0.00
tblVehicleTrips	WD_TR	5.44	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	470.95	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	44.32	0.00
tblVehicleTrips	WD_TR	106.78	0.00
tblWater	IndoorWaterUseRate	9,773,103.84	0.00
tblWater	IndoorWaterUseRate	1,177,710.80	0.00
tblWater	IndoorWaterUseRate	1,016,837.94	0.00
tblWater	IndoorWaterUseRate	377,029.13	0.00
tblWater	IndoorWaterUseRate	2,847,495.76	0.00
tblWater	OutdoorWaterUseRate	6,161,304.60	0.00
tblWater	OutdoorWaterUseRate	1,572,755.38	0.00
tblWater	OutdoorWaterUseRate	75,173.03	0.00
tblWater	OutdoorWaterUseRate	64,904.55	0.00
tblWater	OutdoorWaterUseRate	231,082.37	0.00
tblWater	OutdoorWaterUseRate	88,066.88	0.00
tblWoodstoves	NumberCatalytic	7.50	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWoodstoves	NumberNoncatalytic	7.50	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.5429	50.4821	21.1500	0.0589	21.9920	2.1586	24.1507	10.3885	1.9860	12.3745	0.0000	5,715.9050	5,715.9050	1.7866	0.0188	5,763.6750
2023	3.8894	54.4669	24.4021	0.1791	21.9920	1.7570	23.7490	10.3885	1.6165	12.0050	0.0000	18,684.8338	18,684.8338	1.7851	2.2580	19,397.0772
2024	49.7886	9.6945	15.0994	0.0248	0.5174	0.4704	0.6637	0.1378	0.4328	0.4847	0.0000	2,414.1776	2,414.1776	0.7179	0.0206	2,436.3395
Maximum	**49.7886**	**54.4669**	**24.4021**	**0.1791**	**21.9920**	**2.1586**	**24.1507**	**10.3885**	**1.9860**	**12.3745**	**0.0000**	**18,684.8338**	**18,684.8338**	**1.7866**	**2.2580**	**19,397.0772**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	2.9211	38.1768	26.2557	0.0589	5.8763	1.5688	7.4451	2.7432	1.4875	4.2307	0.0000	5,715.9050	5,715.9050	1.7866	0.0188	5,763.6750
2023	2.6049	50.5467	26.0784	0.1791	6.7520	1.3755	8.0069	2.7432	1.3096	4.0528	0.0000	18,684.8338	18,684.8338	1.7851	2.2580	19,397.0772
2024	49.7886	9.6945	15.0994	0.0248	0.5174	0.4704	0.6637	0.1378	0.4328	0.4847	0.0000	2,414.1776	2,414.1776	0.7179	0.0206	2,436.3395
Maximum	**49.7886**	**50.5467**	**26.2557**	**0.1791**	**6.7520**	**1.5688**	**8.0069**	**2.7432**	**1.4875**	**4.2307**	**0.0000**	**18,684.8338**	**18,684.8338**	**1.7866**	**2.2580**	**19,397.0772**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	4.99	14.15	-11.18	0.00	70.46	22.15	66.82	73.11	19.96	64.74	0.00	0.00	0.00	0.00	0.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2022	12/28/2022	5	20	
2	Site Preparation	Site Preparation	12/29/2022	1/11/2023	5	10	
3	Grading	Grading	1/12/2023	2/8/2023	5	20	
4	Building Construction	Building Construction	2/9/2023	12/27/2023	5	230	
5	Paving	Paving	12/28/2023	1/24/2024	5	20	
6	Architectural Coating	Architectural Coating	1/25/2024	2/21/2024	5	20	

Acres of Grading (Site Preparation Phase): 35

Acres of Grading (Grading Phase): 50

Acres of Paving: 4.03

Residential Indoor: 250,821; Residential Outdoor: 83,607; Non-Residential Indoor: 53,133; Non-Residential Outdoor: 17,711; Striped Parking Area: 10,536 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	3	8.00	212	0.43
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	4.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	4.00	4,845.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	218.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0710	0.0000	0.0710	0.0108	0.0000	0.0108			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0710**	**1.2427**	**1.3137**	**0.0108**	**1.1553**	**1.1660**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0500e-003	0.0472	0.0102	2.0000e-004	6.1300e-003	5.2000e-004	6.6500e-003	1.6800e-003	5.0000e-004	2.1800e-003		21.4837	21.4837	2.9000e-004	3.3800e-003	22.4994
Vendor	6.2300e-003	0.1782	0.0611	7.3000e-004	0.0256	2.4400e-003	0.0281	7.3800e-003	2.3400e-003	9.7200e-003		77.2623	77.2623	8.0000e-004	0.0115	80.6995
Worker	0.0552	0.0398	0.4846	1.3800e-003	0.1677	8.4000e-004	0.1685	0.0445	7.7000e-004	0.0452		140.4261	140.4261	3.8100e-003	3.9000e-003	141.6847
Total	**0.0625**	**0.2651**	**0.5559**	**2.3100e-003**	**0.1994**	**3.8000e-003**	**0.2032**	**0.0535**	**3.6100e-003**	**0.0571**		**239.1721**	**239.1721**	**4.9000e-003**	**0.0188**	**244.8836**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0185	0.0000	0.0185	2.8000e-003	0.0000	2.8000e-003			0.0000			0.0000
Off-Road	2.0112	20.9684	21.5427	0.0388		0.9786	0.9786		0.9246	0.9246	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.0112**	**20.9684**	**21.5427**	**0.0388**	**0.0185**	**0.9786**	**0.9971**	**2.8000e-003**	**0.9246**	**0.9274**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0500e-003	0.0472	0.0102	2.0000e-004	6.1300e-003	5.2000e-004	6.6500e-003	1.6800e-003	5.0000e-004	2.1800e-003		21.4837	21.4837	2.9000e-004	3.3800e-003	22.4994
Vendor	6.2300e-003	0.1782	0.0611	7.3000e-004	0.0256	2.4400e-003	0.0281	7.3800e-003	2.3400e-003	9.7200e-003		77.2623	77.2623	8.0000e-004	0.0115	80.6995
Worker	0.0552	0.0398	0.4846	1.3800e-003	0.1677	8.4000e-004	0.1685	0.0445	7.7000e-004	0.0452		140.4261	140.4261	3.8100e-003	3.9000e-003	141.6847
Total	**0.0625**	**0.2651**	**0.5559**	**2.3100e-003**	**0.1994**	**3.8000e-003**	**0.2032**	**0.0535**	**3.6100e-003**	**0.0571**		**239.1721**	**239.1721**	**4.9000e-003**	**0.0188**	**244.8836**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.7780	0.0000	21.7780	10.3315	0.0000	10.3315			0.0000			0.0000
Off-Road	4.4735	50.3453	19.9794	0.0569		2.1564	2.1564		1.9839	1.9839		5,508.7626	5,508.7626	1.7817		5,553.3037
Total	**4.4735**	**50.3453**	**19.9794**	**0.0569**	**21.7780**	**2.1564**	**23.9344**	**10.3315**	**1.9839**	**12.3154**		**5,508.7626**	**5,508.7626**	**1.7817**		**5,553.3037**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1200e-003	0.0891	0.0305	3.6000e-004	0.0128	1.2200e-003	0.0140	3.6900e-003	1.1700e-003	4.8600e-003		38.6312	38.6312	4.0000e-004	5.7300e-003	40.3497
Worker	0.0663	0.0477	0.5816	1.6600e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		168.5113	168.5113	4.5800e-003	4.6800e-003	170.0216
Total	**0.0694**	**0.1368**	**0.6121**	**2.0200e-003**	**0.2140**	**2.2200e-003**	**0.2162**	**0.0571**	**2.0900e-003**	**0.0591**		**207.1424**	**207.1424**	**4.9800e-003**	**0.0104**	**210.3713**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.6623	0.0000	5.6623	2.6862	0.0000	2.6862			0.0000			0.0000
Off-Road	2.8517	38.0400	25.6436	0.0569		1.5666	1.5666		1.4854	1.4854	0.0000	5,508.7626	5,508.7626	1.7817		5,553.3037
Total	**2.8517**	**38.0400**	**25.6436**	**0.0569**	**5.6623**	**1.5666**	**7.2289**	**2.6862**	**1.4854**	**4.1716**	**0.0000**	**5,508.7626**	**5,508.7626**	**1.7817**		**5,553.3037**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1200e-003	0.0891	0.0305	3.6000e-004	0.0128	1.2200e-003	0.0140	3.6900e-003	1.1700e-003	4.8600e-003		38.6312	38.6312	4.0000e-004	5.7300e-003	40.3497
Worker	0.0663	0.0477	0.5816	1.6600e-003	0.2012	1.0000e-003	0.2022	0.0534	9.2000e-004	0.0543		168.5113	168.5113	4.5800e-003	4.6800e-003	170.0216
Total	**0.0694**	**0.1368**	**0.6121**	**2.0200e-003**	**0.2140**	**2.2200e-003**	**0.2162**	**0.0571**	**2.0900e-003**	**0.0591**		**207.1424**	**207.1424**	**4.9800e-003**	**0.0104**	**210.3713**

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.7780	0.0000	21.7780	10.3315	0.0000	10.3315			0.0000			0.0000
Off-Road	3.8257	41.8226	18.2686	0.0568		1.7555	1.7555		1.6151	1.6151		5,505.6246	5,505.6246	1.7806		5,550.1404
Total	**3.8257**	**41.8226**	**18.2686**	**0.0568**	**21.7780**	**1.7555**	**23.5335**	**10.3315**	**1.6151**	**11.9465**		**5,505.6246**	**5,505.6246**	**1.7806**		**5,550.1404**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0900e-003	0.0693	0.0278	3.5000e-004	0.0128	5.7000e-004	0.0134	3.6900e-003	5.5000e-004	4.2300e-003		37.1462	37.1462	3.7000e-004	5.4900e-003	38.7926
Worker	0.0616	0.0422	0.5362	1.6000e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		164.1079	164.1079	4.1200e-003	4.3200e-003	165.4988
Total	**0.0637**	**0.1115**	**0.5640**	**1.9500e-003**	**0.2140**	**1.5100e-003**	**0.2155**	**0.0571**	**1.4200e-003**	**0.0585**		**201.2540**	**201.2540**	**4.4900e-003**	**9.8100e-003**	**204.2914**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.6623	0.0000	5.6623	2.6862	0.0000	2.6862			0.0000			0.0000
Off-Road	2.5412	34.0252	24.8081	0.0568		1.3740	1.3740		1.3082	1.3082	0.0000	5,505.6246	5,505.6246	1.7806		5,550.1404
Total	**2.5412**	**34.0252**	**24.8081**	**0.0568**	**5.6623**	**1.3740**	**7.0362**	**2.6862**	**1.3082**	**3.9944**	**0.0000**	**5,505.6246**	**5,505.6246**	**1.7806**		**5,550.1404**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0900e-003	0.0693	0.0278	3.5000e-004	0.0128	5.7000e-004	0.0134	3.6900e-003	5.5000e-004	4.2300e-003		37.1462	37.1462	3.7000e-004	5.4900e-003	38.7926
Worker	0.0616	0.0422	0.5362	1.6000e-003	0.2012	9.4000e-004	0.2021	0.0534	8.7000e-004	0.0542		164.1079	164.1079	4.1200e-003	4.3200e-003	165.4988
Total	**0.0637**	**0.1115**	**0.5640**	**1.9500e-003**	**0.2140**	**1.5100e-003**	**0.2155**	**0.0571**	**1.4200e-003**	**0.0585**		**201.2540**	**201.2540**	**4.4900e-003**	**9.8100e-003**	**204.2914**

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.9188	0.0000	8.9188	3.6337	0.0000	3.6337			0.0000			0.0000
Off-Road	2.5856	28.6596	14.7689	0.0438		1.1420	1.1420		1.0507	1.0507		4,236.4284	4,236.4284	1.3702		4,270.6821
Total	**2.5856**	**28.6596**	**14.7689**	**0.0438**	**8.9188**	**1.1420**	**10.0608**	**3.6337**	**1.0507**	**4.6843**		**4,236.4284**	**4,236.4284**	**1.3702**		**4,270.6821**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4873	25.6335	6.7926	0.1333	4.2398	0.2924	4.5322	1.1624	0.2797	1.4421		14,237.3565	14,237.3565	0.1996	2.2435	14,910.8944
Vendor	4.1800e-003	0.1386	0.0556	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.2923	74.2923	7.4000e-004	0.0110	77.5851
Worker	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157
Total	**0.5428**	**25.8073**	**7.2950**	**0.1354**	**4.4331**	**0.2943**	**4.7274**	**1.2142**	**0.2816**	**1.4958**		**14,448.4054**	**14,448.4054**	**0.2037**	**2.2580**	**15,126.3952**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3189	0.0000	2.3189	0.9448	0.0000	0.9448			0.0000			0.0000
Off-Road	1.9194	24.7394	18.7834	0.0438		0.9606	0.9606		0.9092	0.9092	0.0000	4,236.4284	4,236.4284	1.3702		4,270.6821
Total	**1.9194**	**24.7394**	**18.7834**	**0.0438**	**2.3189**	**0.9606**	**3.2795**	**0.9448**	**0.9092**	**1.8540**	**0.0000**	**4,236.4284**	**4,236.4284**	**1.3702**		**4,270.6821**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4873	25.6335	6.7926	0.1333	4.2398	0.2924	4.5322	1.1624	0.2797	1.4421		14,237.3565	14,237.3565	0.1996	2.2435	14,910.8944
Vendor	4.1800e-003	0.1386	0.0556	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.2923	74.2923	7.4000e-004	0.0110	77.5851
Worker	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157
Total	**0.5428**	**25.8073**	**7.2950**	**0.1354**	**4.4331**	**0.2943**	**4.7274**	**1.2142**	**0.2816**	**1.4958**		**14,448.4054**	**14,448.4054**	**0.2037**	**2.2580**	**15,126.3952**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6735	15.4377	17.3101	0.0288		0.7481	0.7481		0.7029	0.7029		2,738.1535	2,738.1535	0.6670		2,754.8288
Total	**1.6735**	**15.4377**	**17.3101**	**0.0288**		**0.7481**	**0.7481**		**0.7029**	**0.7029**		**2,738.1535**	**2,738.1535**	**0.6670**		**2,754.8288**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0449	1.4899	0.5979	7.5300e-003	0.2754	0.0123	0.2877	0.0793	0.0118	0.0911		798.6424	798.6424	7.9600e-003	0.1181	834.0399
Worker	0.7465	0.5107	6.4941	0.0194	2.4367	0.0114	2.4482	0.6462	0.0105	0.6568		1,987.5285	1,987.5285	0.0499	0.0523	2,004.3743
Total	**0.7914**	**2.0005**	**7.0920**	**0.0270**	**2.7122**	**0.0237**	**2.7359**	**0.7255**	**0.0223**	**0.7478**		**2,786.1710**	**2,786.1710**	**0.0579**	**0.1705**	**2,838.4142**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6735	15.4377	17.3101	0.0288		0.7481	0.7481		0.7029	0.7029	0.0000	2,738.1535	2,738.1535	0.6670		2,754.8288
Total	**1.6735**	**15.4377**	**17.3101**	**0.0288**		**0.7481**	**0.7481**		**0.7029**	**0.7029**	**0.0000**	**2,738.1535**	**2,738.1535**	**0.6670**		**2,754.8288**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0449	1.4899	0.5979	7.5300e-003	0.2754	0.0123	0.2877	0.0793	0.0118	0.0911		798.6424	798.6424	7.9600e-003	0.1181	834.0399
Worker	0.7465	0.5107	6.4941	0.0194	2.4367	0.0114	2.4482	0.6462	0.0105	0.6568		1,987.5285	1,987.5285	0.0499	0.0523	2,004.3743
Total	**0.7914**	**2.0005**	**7.0920**	**0.0270**	**2.7122**	**0.0237**	**2.7359**	**0.7255**	**0.0223**	**0.7478**		**2,786.1710**	**2,786.1710**	**0.0579**	**0.1705**	**2,838.4142**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3602**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1800e-003	0.1386	0.0556	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.2923	74.2923	7.4000e-004	0.0110	77.5851
Worker	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157
Total	**0.0556**	**0.1737**	**0.5025**	**2.0400e-003**	**0.1933**	**1.9300e-003**	**0.1952**	**0.0519**	**1.8100e-003**	**0.0537**		**211.0489**	**211.0489**	**4.1700e-003**	**0.0146**	**215.5008**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3602**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1800e-003	0.1386	0.0556	7.0000e-004	0.0256	1.1400e-003	0.0268	7.3800e-003	1.0900e-003	8.4700e-003		74.2923	74.2923	7.4000e-004	0.0110	77.5851
Worker	0.0514	0.0351	0.4468	1.3400e-003	0.1677	7.9000e-004	0.1685	0.0445	7.2000e-004	0.0452		136.7566	136.7566	3.4300e-003	3.6000e-003	137.9157
Total	**0.0556**	**0.1737**	**0.5025**	**2.0400e-003**	**0.1933**	**1.9300e-003**	**0.1952**	**0.0519**	**1.8100e-003**	**0.0537**		**211.0489**	**211.0489**	**4.1700e-003**	**0.0146**	**215.5008**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3157**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1100e-003	0.1386	0.0550	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0900e-003	8.4600e-003		73.1486	73.1486	7.7000e-004	0.0108	76.3866
Worker	0.0480	0.0313	0.4186	1.2900e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		133.4818	133.4818	3.1200e-003	3.3500e-003	134.5565
Total	**0.0521**	**0.1699**	**0.4736**	**1.9800e-003**	**0.1933**	**1.8800e-003**	**0.1952**	**0.0519**	**1.7800e-003**	**0.0536**		**206.6304**	**206.6304**	**3.8900e-003**	**0.0142**	**210.9432**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.3275					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3157**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1100e-003	0.1386	0.0550	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0900e-003	8.4600e-003		73.1486	73.1486	7.7000e-004	0.0108	76.3866
Worker	0.0480	0.0313	0.4186	1.2900e-003	0.1677	7.5000e-004	0.1684	0.0445	6.9000e-004	0.0452		133.4818	133.4818	3.1200e-003	3.3500e-003	134.5565
Total	**0.0521**	**0.1699**	**0.4736**	**1.9800e-003**	**0.1933**	**1.8800e-003**	**0.1952**	**0.0519**	**1.7800e-003**	**0.0536**		**206.6304**	**206.6304**	**3.8900e-003**	**0.0142**	**210.9432**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.4026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812		375.2641	375.2641	0.0211		375.7923
Total	**49.6436**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**		**375.2641**	**375.2641**	**0.0211**		**375.7923**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1100e-003	0.1386	0.0550	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0900e-003	8.4600e-003		73.1486	73.1486	7.7000e-004	0.0108	76.3866
Worker	0.1409	0.0918	1.2279	3.8000e-003	0.4918	2.2000e-003	0.4940	0.1304	2.0300e-003	0.1325		391.5466	391.5466	9.1400e-003	9.8100e-003	394.6992
Total	**0.1450**	**0.2304**	**1.2829**	**4.4900e-003**	**0.5174**	**3.3300e-003**	**0.5208**	**0.1378**	**3.1200e-003**	**0.1409**		**464.6951**	**464.6951**	**9.9100e-003**	**0.0206**	**471.0858**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	49.4026					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2410	1.6251	2.4135	3.9600e-003		0.0812	0.0812		0.0812	0.0812	0.0000	375.2641	375.2641	0.0211		375.7923
Total	**49.6436**	**1.6251**	**2.4135**	**3.9600e-003**		**0.0812**	**0.0812**		**0.0812**	**0.0812**	**0.0000**	**375.2641**	**375.2641**	**0.0211**		**375.7923**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1100e-003	0.1386	0.0550	6.9000e-004	0.0256	1.1300e-003	0.0268	7.3800e-003	1.0900e-003	8.4600e-003		73.1486	73.1486	7.7000e-004	0.0108	76.3866
Worker	0.1409	0.0918	1.2279	3.8000e-003	0.4918	2.2000e-003	0.4940	0.1304	2.0300e-003	0.1325		391.5466	391.5466	9.1400e-003	9.8100e-003	394.6992
Total	**0.1450**	**0.2304**	**1.2829**	**4.4900e-003**	**0.5174**	**3.3300e-003**	**0.5208**	**0.1378**	**3.1200e-003**	**0.1409**		**464.6951**	**464.6951**	**9.9100e-003**	**0.0206**	**471.0858**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Supermarket	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
High Turnover (Sit Down	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Supermarket	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant with Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
High Turnover (Sit Down Restaurant)	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Strip Mall	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Supermarket	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596
Unmitigated	3.9124	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688	0.0000	22.4164	22.4164	0.0217	0.0000	22.9596

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**		**0.0688**	**0.0688**		**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**3.9124**	**0.1431**	**12.4322**	**6.6000e-004**		**0.0688**	**0.0688**		**0.0688**	**0.0688**	**0.0000**	**22.4164**	**22.4164**	**0.0217**	**0.0000**	**22.9596**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

This page intentionally left blank

APPENDIX 3.3:

CALEEMOD MITIGATION REPORT MODEL OUTPUTS

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Riverside-South Coast County, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demolition	0.23	0.18	-0.04	0.00	0.21	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.21	0.07	-0.18	0.00	0.13	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.34	0.20	-0.33	0.00	0.23	0.20	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Air Compressors	Diesel	No Change	0	1	No Change	0.00
Concrete/Industrial Saws	Diesel	No Change	0	1	No Change	0.00
Cranes	Diesel	No Change	0	1	No Change	0.00
Crawler Tractors	Diesel	Tier 3	4	7	No Change	0.00
Excavators	Diesel	No Change	0	4	No Change	0.00
Forklifts	Diesel	No Change	0	3	No Change	0.00
Generator Sets	Diesel	No Change	0	1	No Change	0.00
Graders	Diesel	No Change	0	1	No Change	0.00
Pavers	Diesel	No Change	0	2	No Change	0.00
Paving Equipment	Diesel	No Change	0	2	No Change	0.00
Rollers	Diesel	No Change	0	2	No Change	0.00
Rubber Tired Dozers	Diesel	Tier 3	3	6	No Change	0.00
Tractors/Loaders/Backhoes	Diesel	No Change	0	3	No Change	0.00
Welders	Diesel	No Change	0	1	No Change	0.00

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Unmitigated tons/yr						Unmitigated mt/yr					
Air Compressors	2.41000E-003	1.62500E-002	2.41400E-002	4.00000E-005	8.10000E-004	8.10000E-004	0.00000E+000	3.40434E+000	3.40434E+000	1.90000E-004	0.00000E+000	3.40913E+000
Concrete/Industrial Saws	3.58000E-003	2.80100E-002	3.66500E-002	6.00000E-005	1.50000E-003	1.50000E-003	0.00000E+000	5.37656E+000	5.37656E+000	2.90000E-004	0.00000E+000	5.38390E+000
Cranes	4.04100E-002	4.38780E-001	2.10960E-001	6.60000E-004	1.83200E-002	1.68600E-002	0.00000E+000	5.82995E+001	5.82995E+001	1.88600E-002	0.00000E+000	5.87709E+001
Crawler Tractors	2.24000E-002	2.59760E-001	1.12470E-001	3.90000E-004	1.00500E-002	9.24000E-003	0.00000E+000	3.43974E+001	3.43974E+001	1.11200E-002	0.00000E+000	3.46755E+001
Excavators	7.96000E-003	6.88000E-002	1.30230E-001	2.10000E-004	3.34000E-003	3.07000E-003	0.00000E+000	1.81451E+001	1.81451E+001	5.87000E-003	0.00000E+000	1.82918E+001
Forklifts	3.53800E-002	3.31090E-001	3.94950E-001	5.30000E-004	2.04600E-002	1.88200E-002	0.00000E+000	4.63305E+001	4.63305E+001	1.49800E-002	0.00000E+000	4.67051E+001
Generator Sets	3.51800E-002	3.12290E-001	4.21980E-001	7.60000E-004	1.47500E-002	1.47500E-002	0.00000E+000	6.49989E+001	6.49989E+001	2.86000E-003	0.00000E+000	6.50703E+001
Graders	3.83000E-003	4.65300E-002	1.69300E-002	7.00000E-005	1.51000E-003	1.39000E-003	0.00000E+000	5.81374E+000	5.81374E+000	1.88000E-003	0.00000E+000	5.86075E+000
Pavers	3.69000E-003	3.51200E-002	5.78400E-002	9.00000E-005	1.64000E-003	1.51000E-003	0.00000E+000	8.25842E+000	8.25842E+000	2.67000E-003	0.00000E+000	8.32520E+000
Paving Equipment	3.31000E-003	3.01400E-002	5.13700E-002	8.00000E-005	1.46000E-003	1.34000E-003	0.00000E+000	7.15707E+000	7.15707E+000	2.31000E-003	0.00000E+000	7.21494E+000
Rollers	2.93000E-003	3.06600E-002	3.70100E-002	5.00000E-005	1.63000E-003	1.50000E-003	0.00000E+000	4.61107E+000	4.61107E+000	1.49000E-003	0.00000E+000	4.64836E+000
Rubber Tired Dozers	3.43200E-002	3.59050E-001	1.50730E-001	3.80000E-004	1.66600E-002	1.53300E-002	0.00000E+000	3.37616E+001	3.37616E+001	1.09200E-002	0.00000E+000	3.40346E+001
Tractors/Loaders/Backhoes	5.22200E-002	5.29810E-001	7.69810E-001	1.07000E-003	2.61600E-002	2.40600E-002	0.00000E+000	9.43870E+001	9.43870E+001	3.05300E-002	0.00000E+000	9.51502E+001
Welders	2.92600E-002	1.63360E-001	1.92960E-001	2.90000E-004	6.34000E-003	6.34000E-003	0.00000E+000	2.16454E+001	2.16454E+001	2.36000E-003	0.00000E+000	2.17044E+001

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	Mitigated tons/yr						Mitigated mt/yr					
Air Compressors	2.41000E-003	1.62500E-002	2.41300E-002	4.00000E-005	8.10000E-004	8.10000E-004	0.00000E+000	3.40433E+000	3.40433E+000	1.90000E-004	0.00000E+000	3.40913E+000
Concrete/Industrial Saws	3.58000E-003	2.80100E-002	3.66500E-002	6.00000E-005	1.50000E-003	1.50000E-003	0.00000E+000	5.37656E+000	5.37656E+000	2.90000E-004	0.00000E+000	5.38389E+000
Cranes	4.04100E-002	4.38780E-001	2.10960E-001	6.60000E-004	1.83200E-002	1.68600E-002	0.00000E+000	5.82994E+001	5.82994E+001	1.88600E-002	0.00000E+000	5.87708E+001
Crawler Tractors	1.51300E-002	2.18000E-001	1.67500E-001	3.90000E-004	8.35000E-003	8.01000E-003	0.00000E+000	3.43974E+001	3.43974E+001	1.11200E-002	0.00000E+000	3.46755E+001
Excavators	7.96000E-003	6.88000E-002	1.30230E-001	2.10000E-004	3.34000E-003	3.07000E-003	0.00000E+000	1.81451E+001	1.81451E+001	5.87000E-003	0.00000E+000	1.82918E+001
Forklifts	3.53800E-002	3.31090E-001	3.94950E-001	5.30000E-004	2.04600E-002	1.88200E-002	0.00000E+000	4.63305E+001	4.63305E+001	1.49800E-002	0.00000E+000	4.67051E+001
Generator Sets	3.51800E-002	3.12290E-001	4.21980E-001	7.60000E-004	1.47500E-002	1.47500E-002	0.00000E+000	6.49988E+001	6.49988E+001	2.86000E-003	0.00000E+000	6.50703E+001
Graders	3.83000E-003	4.65300E-002	1.69300E-002	7.00000E-005	1.51000E-003	1.39000E-003	0.00000E+000	5.81373E+000	5.81373E+000	1.88000E-003	0.00000E+000	5.86074E+000
Pavers	3.69000E-003	3.51200E-002	5.78400E-002	9.00000E-005	1.64000E-003	1.51000E-003	0.00000E+000	8.25841E+000	8.25841E+000	2.67000E-003	0.00000E+000	8.32519E+000
Paving Equipment	3.31000E-003	3.01400E-002	5.13700E-002	8.00000E-005	1.46000E-003	1.34000E-003	0.00000E+000	7.15706E+000	7.15706E+000	2.31000E-003	0.00000E+000	7.21493E+000
Rollers	2.93000E-003	3.06600E-002	3.70100E-002	5.00000E-005	1.63000E-003	1.50000E-003	0.00000E+000	4.61107E+000	4.61107E+000	1.49000E-003	0.00000E+000	4.64835E+000
Rubber Tired Dozers	2.18600E-002	2.70490E-001	1.77300E-001	3.80000E-004	1.17800E-002	1.11100E-002	0.00000E+000	3.37616E+001	3.37616E+001	1.09200E-002	0.00000E+000	3.40346E+001
Tractors/Loaders/Backhoes	5.22200E-002	5.29810E-001	7.69800E-001	1.07000E-003	2.61600E-002	2.40600E-002	0.00000E+000	9.43869E+001	9.43869E+001	3.05300E-002	0.00000E+000	9.51501E+001
Welders	2.92600E-002	1.63360E-001	1.92960E-001	2.90000E-004	6.34000E-003	6.34000E-003	0.00000E+000	2.16454E+001	2.16454E+001	2.36000E-003	0.00000E+000	2.17044E+001

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Air Compressors	0.00000E+000	0.00000E+000	4.14250E-004	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.93743E-006	2.93743E-006	0.00000E+000	0.00000E+000	0.00000E+000
Concrete/Industrial Saws	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.85739E-006
Cranes	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.20070E-006	1.20070E-006	0.00000E+000	0.00000E+000	1.19107E-006
Crawler Tractors	3.24554E-001	1.60764E-001	-4.89286E-001	0.00000E+000	1.69154E-001	1.33117E-001	0.00000E+000	1.16288E-006	1.16288E-006	0.00000E+000	0.00000E+000	1.15355E-006
Excavators	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.10223E-006	1.10223E-006	0.00000E+000	0.00000E+000	1.09339E-006
Forklifts	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.07920E-006	1.07920E-006	0.00000E+000	0.00000E+000	1.28466E-006
Generator Sets	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.23079E-006	1.23079E-006	0.00000E+000	0.00000E+000	1.22944E-006
Graders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.72006E-006	1.72006E-006	0.00000E+000	0.00000E+000	1.70627E-006
Pavers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.21089E-006	1.21089E-006	0.00000E+000	0.00000E+000	1.20117E-006
Paving Equipment	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.39722E-006	1.39722E-006	0.00000E+000	0.00000E+000	1.38601E-006
Rollers	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	2.15130E-006
Rubber Tired Dozers	3.63054E-001	2.46651E-001	-1.76275E-001	0.00000E+000	2.92917E-001	2.75277E-001	0.00000E+000	1.18478E-006	1.18478E-006	0.00000E+000	0.00000E+000	1.17527E-006
Tractors/Loaders/Backhoes	0.00000E+000	0.00000E+000	1.29902E-005	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	1.16541E-006	1.16541E-006	0.00000E+000	0.00000E+000	1.26116E-006
Welders	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	0.00000E+000	9.23985E-007	9.23985E-007	0.00000E+000	0.00000E+000	1.38221E-006

Fugitive Dust Mitigation

Yes/No	Mitigation Measure	Mitigation Input	Mitigation Input	Mitigation Input

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	74.00	PM2.5 Reduction	74.00	Frequency (per day)	
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	0.00		
No	Clean Paved Road	% PM Reduction	0.00				

		Unmitigated		Mitigated		Percent Reduction	
Phase	Source	PM10	PM2.5	PM10	PM2.5	PM10	PM2.5
Architectural Coating	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Architectural Coating	Roads	0.01	0.00	0.01	0.00	0.00	0.00
Building Construction	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Building Construction	Roads	0.31	0.08	0.31	0.08	0.00	0.00
Demolition	Fugitive Dust	0.00	0.00	0.00	0.00	0.75	0.73
Demolition	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Grading	Fugitive Dust	0.09	0.04	0.02	0.01	0.74	0.74
Grading	Roads	0.04	0.01	0.04	0.01	0.00	0.00
Paving	Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00
Paving	Roads	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	Fugitive Dust	0.13	0.05	0.03	0.01	0.74	0.74
Site Preparation	Roads	0.00	0.00	0.00	0.00	0.00	0.00

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Operational Percent Reduction Summary

Category	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Architectural Coating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Indoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Outdoor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value 3
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	0.24	0.55		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			
		Land Use and Site Enhancement Subtotal	0.00			
No	Commute	Implement Trip Reduction Program				
No	Commute	Transit Subsidy				
No	Commute	Implement Employee Parking "Cash Out"				
No	Commute	Workplace Parking Charge				
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00			

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Commute	Market Commute Trip Reduction Option	0.00			
No	Commute	Employee Vanpool/Shuttle	0.00		2.00	
No	Commute	Provide Ride Sharing Program				
	Commute	Commute Subtotal	0.00			
No	School Trip	Implement School Bus Program	0.00			
		Total VMT Reduction	0.00			

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	50.00
No	Use Low VOC Paint (Residential Exterior)	50.00
No	Use Low VOC Paint (Non-residential Interior)	100.00
No	Use Low VOC Paint (Non-residential Exterior)	100.00
No	Use Low VOC Paint (Parking)	100.00
No	% Electric Lawnmower	
No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	
No	Install low-flow Shower	20.00	
No	Turf Reduction		
No	Use Water Efficient Irrigation Systems	6.10	

Wildomar Crossroads (Construction - Mitigated)

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

No	Water Efficient Landscape		

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

This page intentionally left blank

APPENDIX 3.4:

CALEEMOD OPERATIONAL EMISSIONS MODEL OUTPUTS

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Wildomar Crossroads (Operations)

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.00	1000sqft	0.69	29,996.00	0
Other Non-Asphalt Surfaces	66.55	1000sqft	1.53	66,549.00	0
Parking Lot	477.00	Space	1.81	79,056.00	0
City Park	1.32	Acre	1.32	57,591.00	0
Fast Food Restaurant w/o Drive Thru	1.13	1000sqft	0.03	1,133.00	0
Fast Food Restaurant with Drive Thru	2.75	1000sqft	0.06	2,750.00	0
High Turnover (Sit Down Restaurant)	3.35	1000sqft	0.08	3,348.00	0
Apartments Mid Rise	150.00	Dwelling Unit	2.84	123,862.00	429
Strip Mall	5.09	1000sqft	0.12	5,087.00	0
Supermarket	23.10	1000sqft	0.53	23,104.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project area is 9.01 acres. For purposes of analysis, the Coffee/Donut Shop will be modeled as Fast-Doof Restaurant without Drive-Thru

Construction Phase - Operations run only

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Operations run only

Vehicle Trips - Trip characteristics based on information provided in the Trip Generation

Woodstoves - Rule 445

Water And Wastewater - For purposes of analysis, the Coffee/Shop (modeled as Fast-Food Restaurant without Drive-Thru) is assumed to have the same Indoor/Outdoor water usage as a Fast-Food Restaurant with Drive-Thru

Solid Waste - For purposes of analysis, the Coffee/Shop (modeled as Fast-Food Restaurant without Drive-Thru) is assumed to have the same Solid Waste Generation Rate as a Fast-Food Restaurant with Drive-Thru

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	12/28/2022	11/30/2022
tblFireplaces	NumberGas	127.50	150.00
tblFireplaces	NumberNoFireplace	15.00	0.00
tblFireplaces	NumberWood	7.50	0.00
tblLandUse	LandUseSquareFeet	190,800.00	79,056.00
tblLandUse	LandUseSquareFeet	57,586.32	57,591.00
tblLandUse	LandUseSquareFeet	150,000.00	123,862.00
tblLandUse	LotAcreage	4.29	1.81
tblLandUse	LotAcreage	3.95	2.84
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblSolidWaste	SolidWasteGenerationRate	13.02	31.68
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	ST_TR	4.91	4.57
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	42.04	87.48
tblVehicleTrips	ST_TR	177.62	112.76
tblVehicleTrips	SU_TR	4.09	3.77
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	20.43	87.48
tblVehicleTrips	SU_TR	166.47	102.42
tblVehicleTrips	WD_TR	5.44	4.54
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	346.23	533.98
tblVehicleTrips	WD_TR	470.95	467.64
tblVehicleTrips	WD_TR	112.18	107.23
tblVehicleTrips	WD_TR	44.32	87.48
tblVehicleTrips	WD_TR	106.78	93.84
tblWater	IndoorWaterUseRate	342,993.10	834,717.71
tblWater	OutdoorWaterUseRate	21,893.18	53,279.85
tblWoodstoves	NumberCatalytic	7.50	0.00
tblWoodstoves	NumberNoncatalytic	7.50	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.2035	2.6313	13.4910	0.0165		0.2700	0.2700		0.2700	0.2700	0.0000	3,198.8870	3,198.8870	0.0826	0.0582	3,218.3064
Energy	0.1354	1.1960	0.7789	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,476.9060	1,476.9060	0.0283	0.0271	1,485.6825
Mobile	14.4260	11.3122	76.9671	0.1322	12.5950	0.1135	12.7085	3.3601	0.1061	3.4662		13,687.8093	13,687.8093	1.1088	0.8824	13,978.4726
Total	**18.7649**	**15.1395**	**91.2370**	**0.1561**	**12.5950**	**0.4770**	**13.0720**	**3.3601**	**0.4696**	**3.8297**	**0.0000**	**18,363.6023**	**18,363.6023**	**1.2198**	**0.9677**	**18,682.4615**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.2035	2.6313	13.4910	0.0165		0.2700	0.2700		0.2700	0.2700	0.0000	3,198.8870	3,198.8870	0.0826	0.0582	3,218.3064
Energy	0.1354	1.1960	0.7789	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,476.9060	1,476.9060	0.0283	0.0271	1,485.6825
Mobile	14.4260	11.3122	76.9671	0.1322	12.5950	0.1135	12.7085	3.3601	0.1061	3.4662		13,687.8093	13,687.8093	1.1088	0.8824	13,978.4726
Total	**18.7649**	**15.1395**	**91.2370**	**0.1561**	**12.5950**	**0.4770**	**13.0720**	**3.3601**	**0.4696**	**3.8297**	**0.0000**	**18,363.6023**	**18,363.6023**	**1.2198**	**0.9677**	**18,682.4615**

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2022	11/30/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 4.03

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	14.4260	11.3122	76.9671	0.1322	12.5950	0.1135	12.7085	3.3601	0.1061	3.4662		13,687.8093	13,687.8093	1.1088	0.8824	13,978.4726
Unmitigated	14.4260	11.3122	76.9671	0.1322	12.5950	0.1135	12.7085	3.3601	0.1061	3.4662		13,687.8093	13,687.8093	1.1088	0.8824	13,978.4726

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	681.00	685.50	565.50	2,272,894	2,272,894
City Park	0.00	0.00	0.00		
Fast Food Restaurant w/o Drive Thru	605.00	788.57	566.50	435,000	435,000
Fast Food Restaurant with Drive Thru	1,286.00	1,694.33	1299.60	570,352	570,352
High Turnover (Sit Down Restaurant)	359.00	409.80	477.56	250,404	250,404
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	445.00	445.00	445.00	479,466	479,466
Supermarket	2,168.00	2,605.21	2366.31	1,353,504	1,353,504
Total	5,544.00	6,628.40	5,720.47	5,361,620	5,361,620

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive	16.60	2.00	6.90	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	16.60	2.00	6.90	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down	16.60	2.00	6.90	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	16.60	2.00	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	2.00	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	2.00	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	2.00	6.90	16.60	64.40	19.00	45	40	15
Supermarket	16.60	2.00	6.90	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant w/o Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant with Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
High Turnover (Sit Down Restaurant)	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Strip Mall	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Supermarket	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1354	1.1960	0.7789	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,476.9060	1,476.9060	0.0283	0.0271	1,485.6825
NaturalGas Unmitigated	0.1354	1.1960	0.7789	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,476.9060	1,476.9060	0.0283	0.0271	1,485.6825

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5910.48	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	846.367	9.1300e-003	0.0830	0.0697	5.0000e-004		6.3100e-003	6.3100e-003		6.3100e-003	6.3100e-003		99.5725	99.5725	1.9100e-003	1.8300e-003	100.1642
Fast Food Restaurant with Drive Thru	2054.29	0.0222	0.2014	0.1692	1.2100e-003		0.0153	0.0153		0.0153	0.0153		241.6809	241.6809	4.6300e-003	4.4300e-003	243.1171
High Turnover (Sit Down Restaurant)	2501	0.0270	0.2452	0.2060	1.4700e-003		0.0186	0.0186		0.0186	0.0186		294.2355	294.2355	5.6400e-003	5.3900e-003	295.9840
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	30.6614	3.3000e-004	3.0100e-003	2.5300e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		3.6072	3.6072	7.0000e-005	7.0000e-005	3.6287
Supermarket	1210.9	0.0131	0.1187	0.0997	7.1000e-004		9.0200e-003	9.0200e-003		9.0200e-003	9.0200e-003		142.4592	142.4592	2.7300e-003	2.6100e-003	143.3057
Total		**0.1354**	**1.1960**	**0.7789**	**7.3900e-003**		**0.0935**	**0.0935**		**0.0935**	**0.0935**		**1,476.9060**	**1,476.9060**	**0.0283**	**0.0271**	**1,485.6825**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5.91048	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	0.846367	9.1300e-003	0.0830	0.0697	5.0000e-004		6.3100e-003	6.3100e-003		6.3100e-003	6.3100e-003		99.5725	99.5725	1.9100e-003	1.8300e-003	100.1642
Fast Food Restaurant with Drive Thru	2.05429	0.0222	0.2014	0.1692	1.2100e-003		0.0153	0.0153		0.0153	0.0153		241.6809	241.6809	4.6300e-003	4.4300e-003	243.1171
High Turnover (Sit Down Restaurant)	2.501	0.0270	0.2452	0.2060	1.4700e-003		0.0186	0.0186		0.0186	0.0186		294.2355	294.2355	5.6400e-003	5.3900e-003	295.9840
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.0306614	3.3000e-004	3.0100e-003	2.5300e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		3.6072	3.6072	7.0000e-005	7.0000e-005	3.6287
Supermarket	1.2109	0.0131	0.1187	0.0997	7.1000e-004		9.0200e-003	9.0200e-003		9.0200e-003	9.0200e-003		142.4592	142.4592	2.7300e-003	2.6100e-003	143.3057
Total		**0.1354**	**1.1960**	**0.7789**	**7.3900e-003**		**0.0935**	**0.0935**		**0.0935**	**0.0935**		**1,476.9060**	**1,476.9060**	**0.0283**	**0.0271**	**1,485.6825**

6.0 Area Detail

6.1 Mitigation Measures Area

Wildomar Crossroads (Operations) - Riverside-South Coast County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2035	2.6313	13.4910	0.0165		0.2700	0.2700		0.2700	0.2700	0.0000	3,198.8870	3,198.8870	0.0826	0.0582	3,218.3064
Unmitigated	4.2035	2.6313	13.4910	0.0165		0.2700	0.2700		0.2700	0.2700	0.0000	3,198.8870	3,198.8870	0.0826	0.0582	3,218.3064

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2912	2.4882	1.0588	0.0159		0.2012	0.2012		0.2012	0.2012	0.0000	3,176.4706	3,176.4706	0.0609	0.0582	3,195.3468
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**4.2035**	**2.6313**	**13.4910**	**0.0165**		**0.2700**	**0.2700**		**0.2700**	**0.2700**	**0.0000**	**3,198.8870**	**3,198.8870**	**0.0826**	**0.0582**	**3,218.3064**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2912	2.4882	1.0588	0.0159		0.2012	0.2012		0.2012	0.2012	0.0000	3,176.4706	3,176.4706	0.0609	0.0582	3,195.3468
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**4.2035**	**2.6313**	**13.4910**	**0.0165**		**0.2700**	**0.2700**		**0.2700**	**0.2700**	**0.0000**	**3,198.8870**	**3,198.8870**	**0.0826**	**0.0582**	**3,218.3064**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Wildomar Crossroads (Operations)

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.00	1000sqft	0.69	29,996.00	0
Other Non-Asphalt Surfaces	66.55	1000sqft	1.53	66,549.00	0
Parking Lot	477.00	Space	1.81	79,056.00	0
City Park	1.32	Acre	1.32	57,591.00	0
Fast Food Restaurant w/o Drive Thru	1.13	1000sqft	0.03	1,133.00	0
Fast Food Restaurant with Drive Thru	2.75	1000sqft	0.06	2,750.00	0
High Turnover (Sit Down Restaurant)	3.35	1000sqft	0.08	3,348.00	0
Apartments Mid Rise	150.00	Dwelling Unit	2.84	123,862.00	429
Strip Mall	5.09	1000sqft	0.12	5,087.00	0
Supermarket	23.10	1000sqft	0.53	23,104.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project area is 9.01 acres. For purposes of analysis, the Coffee/Donut Shop will be modeled as Fast-Doof Restaurant without Drive-Thru

Construction Phase - Operations run only

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Operations run only

Vehicle Trips - Trip characteristics based on information provided in the Trip Generation

Woodstoves - Rule 445

Water And Wastewater - For purposes of analysis, the Coffee/Shop (modeled as Fast-Food Restaurant without Drive-Thru) is assumed to have the same Indoor/Outdoor water usage as a Fast-Food Restaurant with Drive-Thru

Solid Waste - For purposes of analysis, the Coffee/Shop (modeled as Fast-Food Restaurant without Drive-Thru) is assumed to have the same Solid Waste Generation Rate as a Fast-Food Restaurant with Drive-Thru

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	12/28/2022	11/30/2022
tblFireplaces	NumberGas	127.50	150.00
tblFireplaces	NumberNoFireplace	15.00	0.00
tblFireplaces	NumberWood	7.50	0.00
tblLandUse	LandUseSquareFeet	190,800.00	79,056.00
tblLandUse	LandUseSquareFeet	57,586.32	57,591.00
tblLandUse	LandUseSquareFeet	150,000.00	123,862.00
tblLandUse	LotAcreage	4.29	1.81
tblLandUse	LotAcreage	3.95	2.84
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblSolidWaste	SolidWasteGenerationRate	13.02	31.68
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	ST_TR	4.91	4.57
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	42.04	87.48
tblVehicleTrips	ST_TR	177.62	112.76
tblVehicleTrips	SU_TR	4.09	3.77
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	20.43	87.48
tblVehicleTrips	SU_TR	166.47	102.42
tblVehicleTrips	WD_TR	5.44	4.54
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	346.23	533.98
tblVehicleTrips	WD_TR	470.95	467.64
tblVehicleTrips	WD_TR	112.18	107.23
tblVehicleTrips	WD_TR	44.32	87.48
tblVehicleTrips	WD_TR	106.78	93.84
tblWater	IndoorWaterUseRate	342,993.10	834,717.71
tblWater	OutdoorWaterUseRate	21,893.18	53,279.85
tblWoodstoves	NumberCatalytic	7.50	0.00
tblWoodstoves	NumberNoncatalytic	7.50	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.2035	2.6313	13.4910	0.0165		0.2700	0.2700		0.2700	0.2700	0.0000	3,198.8870	3,198.8870	0.0826	0.0582	3,218.3064
Energy	0.1354	1.1960	0.7789	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,476.9060	1,476.9060	0.0283	0.0271	1,485.6825
Mobile	11.4752	11.9882	73.9589	0.1235	12.5950	0.1138	12.7087	3.3601	0.1063	3.4665		12,787.1787	12,787.1787	1.1994	0.9034	13,086.3903
Total	**15.8141**	**15.8155**	**88.2288**	**0.1474**	**12.5950**	**0.4773**	**13.0722**	**3.3601**	**0.4698**	**3.8300**	**0.0000**	**17,462.9717**	**17,462.9717**	**1.3104**	**0.9888**	**17,790.3792**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.2035	2.6313	13.4910	0.0165		0.2700	0.2700		0.2700	0.2700	0.0000	3,198.8870	3,198.8870	0.0826	0.0582	3,218.3064
Energy	0.1354	1.1960	0.7789	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,476.9060	1,476.9060	0.0283	0.0271	1,485.6825
Mobile	11.4752	11.9882	73.9589	0.1235	12.5950	0.1138	12.7087	3.3601	0.1063	3.4665		12,787.1787	12,787.1787	1.1994	0.9034	13,086.3903
Total	**15.8141**	**15.8155**	**88.2288**	**0.1474**	**12.5950**	**0.4773**	**13.0722**	**3.3601**	**0.4698**	**3.8300**	**0.0000**	**17,462.9717**	**17,462.9717**	**1.3104**	**0.9888**	**17,790.3792**

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2022	11/30/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 4.03

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	11.4752	11.9882	73.9589	0.1235	12.5950	0.1138	12.7087	3.3601	0.1063	3.4665		12,787.1787	12,787.1787	1.1994	0.9034	13,086.3903
Unmitigated	11.4752	11.9882	73.9589	0.1235	12.5950	0.1138	12.7087	3.3601	0.1063	3.4665		12,787.1787	12,787.1787	1.1994	0.9034	13,086.3903

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	681.00	685.50	565.50	2,272,894	2,272,894
City Park	0.00	0.00	0.00		
Fast Food Restaurant w/o Drive Thru	605.00	788.57	566.50	435,000	435,000
Fast Food Restaurant with Drive Thru	1,286.00	1,694.33	1299.60	570,352	570,352
High Turnover (Sit Down Restaurant)	359.00	409.80	477.56	250,404	250,404
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	445.00	445.00	445.00	479,466	479,466
Supermarket	2,168.00	2,605.21	2366.31	1,353,504	1,353,504
Total	5,544.00	6,628.40	5,720.47	5,361,620	5,361,620

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive	16.60	2.00	6.90	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	16.60	2.00	6.90	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down	16.60	2.00	6.90	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	16.60	2.00	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	2.00	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	2.00	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	2.00	6.90	16.60	64.40	19.00	45	40	15
Supermarket	16.60	2.00	6.90	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant w/o Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant with Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
High Turnover (Sit Down Restaurant)	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Strip Mall	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Supermarket	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1354	1.1960	0.7789	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,476.9060	1,476.9060	0.0283	0.0271	1,485.6825
NaturalGas Unmitigated	0.1354	1.1960	0.7789	7.3800e-003		0.0935	0.0935		0.0935	0.0935		1,476.9060	1,476.9060	0.0283	0.0271	1,485.6825

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5910.48	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	846.367	9.1300e-003	0.0830	0.0697	5.0000e-004		6.3100e-003	6.3100e-003		6.3100e-003	6.3100e-003		99.5725	99.5725	1.9100e-003	1.8300e-003	100.1642
Fast Food Restaurant with Drive Thru	2054.29	0.0222	0.2014	0.1692	1.2100e-003		0.0153	0.0153		0.0153	0.0153		241.6809	241.6809	4.6300e-003	4.4300e-003	243.1171
High Turnover (Sit Down Restaurant)	2501	0.0270	0.2452	0.2060	1.4700e-003		0.0186	0.0186		0.0186	0.0186		294.2355	294.2355	5.6400e-003	5.3900e-003	295.9840
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	30.6614	3.3000e-004	3.0100e-003	2.5300e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		3.6072	3.6072	7.0000e-005	7.0000e-005	3.6287
Supermarket	1210.9	0.0131	0.1187	0.0997	7.1000e-004		9.0200e-003	9.0200e-003		9.0200e-003	9.0200e-003		142.4592	142.4592	2.7300e-003	2.6100e-003	143.3057
Total		**0.1354**	**1.1960**	**0.7789**	**7.3900e-003**		**0.0935**	**0.0935**		**0.0935**	**0.0935**		**1,476.9060**	**1,476.9060**	**0.0283**	**0.0271**	**1,485.6825**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5.91048	0.0637	0.5447	0.2318	3.4800e-003		0.0440	0.0440		0.0440	0.0440		695.3507	695.3507	0.0133	0.0128	699.4828
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	0.846367	9.1300e-003	0.0830	0.0697	5.0000e-004		6.3100e-003	6.3100e-003		6.3100e-003	6.3100e-003		99.5725	99.5725	1.9100e-003	1.8300e-003	100.1642
Fast Food Restaurant with Drive Thru	2.05429	0.0222	0.2014	0.1692	1.2100e-003		0.0153	0.0153		0.0153	0.0153		241.6809	241.6809	4.6300e-003	4.4300e-003	243.1171
High Turnover (Sit Down Restaurant)	2.501	0.0270	0.2452	0.2060	1.4700e-003		0.0186	0.0186		0.0186	0.0186		294.2355	294.2355	5.6400e-003	5.3900e-003	295.9840
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.0306614	3.3000e-004	3.0100e-003	2.5300e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004		3.6072	3.6072	7.0000e-005	7.0000e-005	3.6287
Supermarket	1.2109	0.0131	0.1187	0.0997	7.1000e-004		9.0200e-003	9.0200e-003		9.0200e-003	9.0200e-003		142.4592	142.4592	2.7300e-003	2.6100e-003	143.3057
Total		**0.1354**	**1.1960**	**0.7789**	**7.3900e-003**		**0.0935**	**0.0935**		**0.0935**	**0.0935**		**1,476.9060**	**1,476.9060**	**0.0283**	**0.0271**	**1,485.6825**

6.0 Area Detail

6.1 Mitigation Measures Area

Wildomar Crossroads (Operations) - Riverside-South Coast County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2035	2.6313	13.4910	0.0165		0.2700	0.2700		0.2700	0.2700	0.0000	3,198.8870	3,198.8870	0.0826	0.0582	3,218.3064
Unmitigated	4.2035	2.6313	13.4910	0.0165		0.2700	0.2700		0.2700	0.2700	0.0000	3,198.8870	3,198.8870	0.0826	0.0582	3,218.3064

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2912	2.4882	1.0588	0.0159		0.2012	0.2012		0.2012	0.2012	0.0000	3,176.4706	3,176.4706	0.0609	0.0582	3,195.3468
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**4.2035**	**2.6313**	**13.4910**	**0.0165**		**0.2700**	**0.2700**		**0.2700**	**0.2700**	**0.0000**	**3,198.8870**	**3,198.8870**	**0.0826**	**0.0582**	**3,218.3064**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3157					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.2190					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2912	2.4882	1.0588	0.0159		0.2012	0.2012		0.2012	0.2012	0.0000	3,176.4706	3,176.4706	0.0609	0.0582	3,195.3468
Landscaping	0.3777	0.1431	12.4322	6.6000e-004		0.0688	0.0688		0.0688	0.0688		22.4164	22.4164	0.0217		22.9596
Total	**4.2035**	**2.6313**	**13.4910**	**0.0165**		**0.2700**	**0.2700**		**0.2700**	**0.2700**	**0.0000**	**3,198.8870**	**3,198.8870**	**0.0826**	**0.0582**	**3,218.3064**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

This page intentionally left blank

APPENDIX 3.5:

SCAQMD AMICUS BRIEF

S219783

IN THE SUPREME COURT OF C ALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,

Plaintiffs and Appellants,

v.

COUNTY OF FRESNO,

Defendant and Respondent,

and,

FRIANT RANCH, L.P.,

Real Party in Interest and Respondent.

SUPREME COURT
FILED
APR 13 2015
Frank A. McGuire Clerk
Deputy

After a Published Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726
Honorable Rosendo A. Pena, Jr.

APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*

Kurt R. Wiese, General Counsel (SBN 127251)
*Barbara Baird, Chief Deputy Counsel (SBN 81507)
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765
Telephone: 909-396-2302; Facsimile: 909-396-2961
Email: bbaird@aqmd.gov
Counsel for [Proposed] Amicus Curiae,
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

RECEIVED
APR - 6 2015
CLERK SUPREME COURT

TABLE OF CONTENTS

APPLICATION FOR LEAVE TO FILE *amicus curiae* brief..... App-1

HOW THIS BRIEF WILL ASSIST THE COURT App-1

STATEMENT OF INTEREST OF *AMICUS CURIAE* App-3

CERTIFICATION REGARDING AUTHORSHIP & FUNDING App-4

BRIEF OF AMICUS CURIAE 1

SUMMARY OF ARGUMENT 1

ARGUMENT 2

I. RELEVANT FACTUAL AND LEGAL FRAMEWORK. 2

A. Air Quality Regulatory Background 2

B. The SCAQMD's Role Under CEQA 6

II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT'S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS..... 8

III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW. 16

A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document 16

B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law. 23

IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS 26

CONCLUSION 29

TABLE OF AUTHORITIES

State Cases

Association of Irritated Residents v. County of Madera (2003)
107 Cal App.4th 1383 ..... 1, 9

Bakersfield Citizens for Local Control v. City of Bakersfield (2004)
124 Cal.App.4th 1184 ..... 9, 22

Berkeley Keep Jets Over the Bay v. Board of Port Commissioners
(2007) 91 Cal.App.4th 1344 ..... 21, 28

Center for Biological Diversity v. County of San Bernardino (2010)
185 Cal.App.4th 866. 20

Citizens of Goleta Valley v. Bd. of Supervisors (1990)
52 Cal.3d 553 8-9

County of Amador v. El Dorado County Water Agency (1999)
76 Cal.App.4th 931 23

Crocker National Bank v. City and County of San Francisco (1989)
49 Cal.3d 881 18

Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire
Protection (2008) 43 Cal.4th 936 21

Fall River Wild Trout Foundation v. County of Shasta, (1999)
70 Cal.App.4th 482 ..... 27, 28

Gray v. County of Madera (2008)
167 Cal.App.4th 1099 25

Laurel Heights Improvement Assn. v.
Regents of the Univ of Cal. ("*Laurel Heights I*")
(1988) 47 Cal.3d 376 ..... 1, 8, 19, 20, 21, 22

Natural Res. Def. Council v SCAQMD,
Los Angeles Superior Court No. BS110792 12

Neighbors for Smart Rail v. Exposition Metro Line (2013)
57 Cal.4th 439 ..... 15, 20

State Cases (cont'd)

Orange County Air Pollution Control District v. Public Util. Com. (1971) 4 Cal.3d 945 27

Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors (2001) 87 Cal.App.4th 99 19

Schenck v. County of Sonoma (2011) 198 Cal.App.4th 949 ..... 26, 27

Sierra Club v. County of Fresno (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271 ..... 9, 23

Sierra Club v. State Bd. Of Forestry (1994) 7 Cal.4th 1215 28

Uphold Our Heritage v. Town of Woodside (2007) 147 Cal.App.4th 587 20

Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412 ..... 1, 17, 19, 24, 25, 26

Western Oil & Gas Assn. v. Monterey Bay Unified APCD (1989) 49 Cal.3d 408 5

California Statutes

Health & Saf. Code § 39666 5
Health & Saf. Code § 40000 3
Health & Saf. Code § 40001 3
Health & Saf. Code § 40410 3
Health & Saf. Code §§ 40460, et seq 4
Health & Saf. Code § 41508 5
Health & Saf. Code §§ 42300, et seq 5
Health & Saf. Code § 44320 5
Health & Saf. Code § 44322 5
Health & Saf. Code § 44360 5
Pub. Resources Code § 20180.3 27
Pub. Resources Code § 21061 19
Pub. Resources Code § 21061.1 16

California Statutes (cont'd)

Pub. Resources Code § 21080 6
Pub. Resources Code § 21080.5 6
Pub. Resources Code § 21083.1 26
Pub. Resources Code § 21100 27
Pub. Resources Code § 21104 ..... 6, 7 26
Pub. Resources Code §§ 21150-21154 7
Pub. Resources Code § 21151.8 25
Pub. Resources Code § 21153 ..... 6, 7, 26

California Regulations

Cal. Code Regs., tit. 14, §§ 15000, et seq. ("CEQA Guidelines")

CEQA Guidelines § 15050 6
CEQA Guidelines § 15051 ..... 1, 6
CEQA Guidelines § 15073 6
CEQA Guidelines § 15086 6
CEQA Guidelines § 15088.5 28
CEQA Guidelines § 15096 6
CEQA Guidelines § 15126.2 25
CEQA Guidelines § 15131 26
CEQA Guidelines § 15144 ..... 19, 24
CEQA Guidelines § 15151 ..... 9, 18, 19
CEQA Guidelines § 15204 ..... 1, 9, 21
CEQA Guidelines § 15251 6
CEQA Guidelines § 15366 7
CEQA Guidelines § 15381 6

Cal. Code Regs., tit. 17, § 60104 3

Federal Statutes

42 U.S.C. § 7401; CAA § 101 4
42 U.S.C. § 7408; CAA § 108 3
42 U.S.C. § 7409; CAA § 109 4
42 U.S.C. § 7410; CAA § 110 ..... 4, 5
42 U.S.C. § 7412; CAA § 112 5
42 U.S.C. § 7502; CAA § 172 ..... 5, 13
42 U.S.C. § 7503; CAA § 173 ..... 5, 13
42 U.S.C. § 7511a; CAA § 182 13
42 U.S.C. § 7521; CAA § 202 4
42 U.S.C. § 7543; CAA § 209 4
42 U.S.C. § 7547; CAA § 213 4

Rules

SCAQMD Rule 1303 7
SCAQMD Rule 1401 ..... 5, 8, 9

Other

Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) (Appendix G, "Environmental Checklist Form." 24

CARB, *Health Impacts Analysis: PM Premature Death Relationship* 14

CARB, *Health Impacts Analysis: PM Mortality Relationship* 16

CARB, Resolution 98-35, Aug. 27, 1998 8

SCAQMD, *Air Quality Analysis Handbook* 13

SCAQMD, *Final 2012 AQMP (Feb. 2013)* 3, 11

SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011)* 14-15

SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System,* 12

SCAQMD Governing Board Agenda, April 3, 2015, Agenda Item 16, Attachment A 7

SCAQMD, Health Risk Assessment Summary form 10

SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588)* 10

U.S. EPA, Ground Level Ozone 11

U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2 11

U.S. EPA, *Health Effects of Ozone in the General Population,* Figure 9, ... 11

U.S. EPA, National Ambient Air Quality Standards (NAAQS) 4

U.S. EPA, Particulate Matter (PM) 4

TO THE HONORABLE CHIEF JUSTICE AND JUSTICES OF THE SUPREME COURT:

APPLICATION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF

Pursuant to Rule 8.520(f) of the California Rules of Court, the South Coast Air Quality Management District (SCAQMD) respectfully requests leave to file the attached *amicus curiae* brief. Because SCAQMD's position differs from that of either party, we request leave to submit this amicus brief in support of neither party.

HOW THIS BRIEF WILL ASSIST THE COURT

SCAQMD's proposed amicus brief takes a position on two of the issues in this case. In both instances, its position differs from that of either party. The issues are:

1) Does the California Environmental Quality Act (CEQA) require an environmental impact report (EIR) to correlate a project's air pollution emissions with specific levels of health impacts?
2) What is the proper standard of review for determining whether an EIR provides sufficient information on the health impacts caused by a project's emission of air pollutants?

This brief will assist the Court by discussing the practical realities of correlating identified air quality impacts with specific health outcomes. In short, CEQA requires agencies to provide detailed information about a project's air quality impacts that is sufficient for the public and decisionmakers to adequately evaluate the project and meaningfully understand its impacts. However, the level of analysis is governed by a rule of reason; CEQA only requires agencies to conduct analysis if it is reasonably feasible to do so.

With regard to health-related air quality impacts, an analysis that correlates a project's air pollution emissions with specific levels of health impacts will be feasible in some cases but not others. Whether it is feasible depends on a variety of factors, including the nature of the project and the nature of the analysis under consideration. The feasibility of analysis may also change over time as air districts and others develop new tools for measuring projects' air quality related health impacts. Because SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, it is uniquely situated to express an opinion on the extent to which the Court should hold that CEQA requires lead agencies to correlate air quality impacts with specific health outcomes.

SCAQMD can also offer a unique perspective on the question of the appropriate standard of review. SCAQMD submits that the proper standard of review for determining whether an EIR is sufficient as an informational document is more nuanced than argued by either party. In our view, this is a mixed question of fact and law. It includes determining whether additional analysis is feasible, which is primarily a factual question that should be reviewed under the substantial evidence standard. However, it also involves determining whether the omission of a particular analysis renders an EIR insufficient to serve CEQA's purpose as a meaningful, informational document. If a lead agency has not determined that a requested analysis is infeasible, it is the court's role to determine whether the EIR nevertheless meets CEQA's purposes, and courts should not defer to the lead agency's conclusions regarding the legal sufficiency of an EIR's analysis. The ultimate question of whether an EIR's analysis is "sufficient" to serve CEQA's informational purposes is predominately a question of law that courts should review de novo.

This brief will explain the rationale for these arguments and may assist the Court in reaching a conclusion that accords proper respect to a lead agency's factual conclusions while maintaining judicial authority over the ultimate question of what level of analysis CEQA requires.

STATEMENT OF INTEREST OF *AMICUS CURIAE*

The SCAQMD is the regional agency primarily responsible for air pollution control in the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of the Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410; Cal. Code Regs., tit. 17, § 60104.) The SCAQMD participates in the CEQA process in several ways. Sometimes it acts as a lead agency that prepares CEQA documents for projects. Other times it acts as a responsible agency when it has permit authority over some part of a project that is undergoing CEQA review by a different lead agency. Finally, SCAQMD also acts as a commenting agency for CEQA documents that it receives because it is a public agency with jurisdiction by law over natural resources affected by the project.

In all of these capacities, SCAQMD will be affected by the decision in this case. SCAQMD sometimes submits comments requesting that a lead agency perform an additional type of air quality or health impacts analysis. On the other hand, SCAQMD sometimes determines that a particular type of health impact analysis is not feasible or would not produce reliable and informative results. Thus, SCAQMD will be affected by the Court's resolution of the extent to which CEQA requires EIRs to correlate emissions and health impacts, and its resolution of the proper standard of review.

CERTIFICATION REGARDING AUTHORSHIP AND FUNDING

No party or counsel in the pending case authored the proposed amicus curiae brief in whole or in part, or made any monetary contribution intended to fund the preparation or submission of the brief. No person or entity other than the proposed *Amicus Curiae* made any monetary contribution intended to fund the preparation or submission of the brief.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT
KURT R. WIESE, GENERAL COUNSEL
BARBARA BAIRD, CHIEF DEPUTY COUNSEL

By: Barbara Baird
Barbara Baird
Attorneys for [proposed] Amicus Curiae
SOUTH COAST AIR QUALITY
MANAGEMENT DISTICT

BRIEF OF AMICUS CURIAE

SUMMARY OF ARGUMENT

The South Coast Air Quality Management District (SCAQMD) submits that this Court should not try to establish a hard-and-fast rule concerning whether lead agencies are required to correlate emissions of air pollutants with specific health consequences in their environmental impact reports (EIR). The level of detail required in EIRs is governed by a few, core CEQA (California Environmental Quality Act) principles. As this Court has stated, "[a]n EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Laurel Heights Improvement Assn. v. Regents of the Univ of Cal.* (1988) 47 Cal.3d 376, 405 ["*Laurel Heights I*"]) Accordingly, "an agency must use its best efforts to find out and disclose all that it reasonably can." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 428 (quoting CEQA Guidelines § 15144)[1].). However, "[a]nalysis of environmental effects need not be exhaustive, but will be judged in light of what is reasonably feasible." (*Association of Irritated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1390; CEQA Guidelines §§ 15151, 15204(a).)

With regard to analysis of air quality related health impacts, EIRs must generally quantify a project's pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions). In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient. In other cases, due to the magnitude

[1] The CEQA Guidelines are found at Cal. Code Regs., tit. 14 §§ 15000, *et seq.*

or nature of the pollution emissions, as well as the specificity of the project involved, it may be feasible to quantify health impacts. Or there may be a less exacting, but still meaningful analysis of health impacts that can feasibly be performed. In these instances, agencies should disclose those impacts.

SCAQMD also submits that whether or not an EIR complies with CEQA's informational mandates by providing sufficient, feasible analysis is a mixed question of fact and law. Pertinent here, the question of whether an EIR's discussion of health impacts from air pollution is sufficient to allow the public to understand and consider meaningfully the issues involves two inquiries: (1) Is it feasible to provide the information or analysis that a commenter is requesting or a petitioner is arguing should be required?; and (2) Even if it is feasible, is the agency relying on other policy or legal considerations to justify not preparing the requested analysis? The first question of whether an analysis is feasible is primarily a question of fact that should be judged by the substantial evidence standard. The second inquiry involves evaluating CEQA's information disclosure purposes against the asserted reasons to not perform the requested analysis. For example, an agency might believe that its EIR meets CEQA's informational disclosure standards even without a particular analysis, and therefore choose not to conduct that analysis. SCAQMD submits that this is more of a legal question, which should be reviewed de novo as a question of law.

ARGUMENT

I. RELEVANT FACTUAL AND LEGAL FRAMEWORK.

A. Air Quality Regulatory Background

The South Coast Air Quality Management District (SCAQMD) is one of the local and regional air pollution control districts and air quality

management districts in California. The SCAQMD is the regional air pollution agency for the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410, 17 Cal. Code Reg. § 60104.) The SCAQMD also includes the Coachella Valley in Riverside County (Palm Springs area to the Salton Sea). (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "chapter 7" hyperlink; pp 7-1, 7-3 (last visited Apr. 1, 2015).) The SCAQMD's jurisdiction includes over 16 million residents and has the worst or nearly the worst air pollution levels in the country for ozone and fine particulate matter. (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Executive Summary" hyperlink p. ES-1 (last visited Apr. 1, 2015).)

Under California law, the local and regional districts are primarily responsible for controlling air pollution from all sources except motor vehicles. (Health & Saf. Code § 40000.) The California Air Resources Board (CARB), part of the California Environmental Protection Agency, is primarily responsible for controlling pollution from motor vehicles. (*Id.*) The air districts must adopt rules to achieve and maintain the state and federal ambient air quality standards within their jurisdictions. (Health & Saf. Code § 40001.)

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to identify pollutants that are widely distributed and pose a threat to human health, developing a so-called "criteria" document. (42 U.S.C. § 7408; CAA § 108.) These pollutants are frequently called "criteria pollutants." EPA must then establish "national ambient air quality standards" at levels "requisite to protect public health",

allowing "an adequate margin of safety." (42 U.S.C. § 7409; CAA § 109.) EPA has set standards for six identified pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter (PM), and lead. (U.S. EPA, National Ambient Air Quality Standards (NAAQS), http://www.epa.gov/air/criteria.html (last updated Oct. 21, 2014).)[2]

Under the Clean Air Act, EPA sets emission standards for motor vehicles and "nonroad engines" (mobile farm and construction equipment, marine vessels, locomotives, aircraft, etc.). (42 U.S.C. §§ 7521, 7547; CAA §§ 202, 213.) California is the only state allowed to establish emission standards for motor vehicles and most nonroad sources; however, it may only do so with EPA's approval. (42 U.S.C. §§ 7543(b), 7543(e); CAA §§ 209(b), 209(c).) Sources such as manufacturing facilities, power plants and refineries that are not mobile are often referred to as "stationary sources." The Clean Air Act charges state and local agencies with the primary responsibility to attain the national ambient air quality standards. (42 U.S.C. § 7401(a)(3); CAA § 101(a)(3).) Each state must adopt and implement a plan including enforceable measures to achieve and maintain the national ambient air quality standards. (42 U.S.C. § 7410; CAA § 110.) The SCAQMD and CARB jointly prepare portion of the plan for the South Coast Air Basin and submit it for approval by EPA. (Health & Saf. Code §§ 40460, et seq.)

The Clean Air Act also requires state and local agencies to adopt a permit program requiring, among other things, that new or modified "major" stationary sources use technology to achieve the "lowest achievable emission rate," and to control minor stationary sources as

---

[2] Particulate matter (PM) is further divided into two categories: fine particulate or $PM_{2.5}$ (particles with a diameter of less than or equal to 2.5 microns) and coarse particulate (PM_{10}) (particles with a diameter of 10 microns or less). (U.S. EPA, Particulate Matter (PM), http://www.epa.gov/airquality/particlepollution/ (last visited Apr. 1, 2015).)

needed to help attain the standards. (42 U.S.C. §§ 7502(c)(5), 7503(a)(2), 7410(a)(2)(C); CAA §§ 172(c)(5), 173(a)(2), 110(a)(2)(C).) The air districts implement these permit programs in California. (Health & Saf. Code §§ 42300, et seq.)

The Clean Air Act also sets out a regulatory structure for over 100 so-called "hazardous air pollutants" calling for EPA to establish "maximum achievable control technology" (MACT) for sources of these pollutants. (42 U.S.C. § 7412(d)(2); CAA § 112(d)(2).) California refers to these pollutants as "toxic air contaminants" (TACs) which are subject to two state-required programs. The first program requires "air toxics control measures" for specific categories of sources. (Health & Saf. Code § 39666.) The other program requires larger stationary sources and sources identified by air districts to prepare "health risk assessments" for impacts of toxic air contaminants. (Health & Saf. Code §§ 44320(b), 44322, 44360.) If the health risk exceeds levels identified by the district as "significant," the facility must implement a "risk reduction plan" to bring its risk levels below "significant" levels. Air districts may adopt additional more stringent requirements than those required by state law, including requirements for toxic air contaminants. (Health & Saf. Code § 41508; *Western Oil & Gas Assn. v. Monterey Bay Unified APCD* (1989) 49 Cal.3d 408, 414.) For example, SCAQMD has adopted a rule requiring new or modified sources to keep their risks below specified levels and use best available control technology (BACT) for toxics. (SCAQMD, *Rule 1401-New Source Review of Toxic Air Contaminants*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiv; then follow "Rule 1401" hyperlink (last visited Apr. 1, 2015).)

B. The SCAQMD's Role Under CEQA

The California Environmental Quality Act (CEQA) requires public agencies to perform an environmental review and appropriate analysis for projects that they implement or approve. (Pub. Resources Code § 21080(a).) The agency with primary approval authority for a particular project is generally the "lead agency" that prepares the appropriate CEQA document. (CEQA Guidelines §§ 15050, 15051.) Other agencies having a subsequent approval authority over all or part of a project are called "responsible" agencies that must determine whether the CEQA document is adequate for their use. (CEQA Guidelines §§ 15096(c), 15381.) Lead agencies must also consult with and circulate their environmental impact reports to "trustee agencies" and agencies "with jurisdiction by law" including "authority over resources which may be affected by the project." (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines §§ 15086(a)(3), 15073(c).) The SCAQMD has a role in all these aspects of CEQA.

Fulfilling its responsibilities to implement its air quality plan and adopt rules to attain the national ambient air quality standards, SCAQMD adopts a dozen or more rules each year to require pollution reductions from a wide variety of sources. The SCAQMD staff evaluates each rule for any adverse environmental impact and prepares the appropriate CEQA document. Although most rules reduce air emissions, they may have secondary environmental impacts such as use of water or energy or disposal of waste—e.g., spent catalyst from control equipment.[3]

---

[3] The SCAQMD's CEQA program for its rules is a "Certified Regulatory Program" under which it prepares a "functionally equivalent" document in lieu of a negative declaration or EIR. (Pub. Resources Code § 21080.5, CEQA Guidelines § 15251(l).)

The SCAQMD also approves a large number of permits every year to construct new, modified, or replacement facilities that emit regulated air pollutants. The majority of these air pollutant sources have already been included in an earlier CEQA evaluation for a larger project, are currently being evaluated by a local government as lead agency, or qualify for an exemption. However, the SCAQMD sometimes acts as lead agency for major projects where the local government does not have a discretionary approval. In such cases, SCAQMD prepares and certifies a negative declaration or environmental impact report (EIR) as appropriate.[4] SCAQMD evaluates perhaps a dozen such permit projects under CEQA each year. SCAQMD is often also a "responsible agency" for many projects since it must issue a permit for part of the projects (e.g., a boiler used to provide heat in a commercial building). For permit projects evaluated by another lead agency under CEQA, SCAQMD has the right to determine that the CEQA document is inadequate for its purposes as a responsible agency, but it may not do so because its permit program already requires all permitted sources to use the best available air pollution control technology. (SCAQMD, *Rule 1303(a)(1) – Requirements*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiii; then follow "Rule 1303" hyperlink (last visited Apr. 1, 2015).)

Finally, SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with "jurisdiction by law" over air quality—a natural resource affected by the project. (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines § 15366(a)(3).) The SCAQMD staff provides comments on as many as 25 or 30 such documents each month.

---

[4] The SCAQMD's permit projects are not included in its Certified Regulatory Program, and are evaluated under the traditional local government CEQA analysis. (Pub. Resources Code §§ 21150-21154.)

(SCAQMD Governing Board Agenda, Apr. 3, 2015, Agenda Item 16, Attachment A, http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-april-3-2015; then follow "16. Lead Agency Projects and Environmental Documents Received by SCAQMD" hyperlink (last visited Apr. 1, 2015).) Of course, SCAQMD focuses its commenting efforts on the more significant projects.

Typically, SCAQMD comments on the adequacy of air quality analysis, appropriateness of assumptions and methodology, and completeness of the recommended air quality mitigation measures. Staff may comment on the need to prepare a health risk assessment detailing the projected cancer and noncancer risks from toxic air contaminants resulting from the project, particularly the impacts of diesel particulate matter, which CARB has identified as a toxic air contaminant based on its carcinogenic effects. (California Air Resources Board, Resolution 98-35, Aug. 27, 1998, http://www.arb.ca.gov/regact/diesltac/diesltac.htm; then follow Resolution 98-35 hyperlink (last visited Apr. 1, 2015).) Because SCAQMD already requires new or modified stationary sources of toxic air contaminants to use the best available control technology for toxics and to keep their risks below specified levels, (SCAQMD Rule 1401, supra, note 15), the greatest opportunity to further mitigate toxic impacts through the CEQA process is by reducing emissions—particularly diesel emissions—from vehicles.

II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT'S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS.

Numerous cases hold that courts do not review the correctness of an EIR's conclusions but rather its sufficiency as an informative document. (*Laurel Heights 1, supra*, 47 Cal.3d at p. 392; *Citizens of Goleta Valley v.*

Bd. of Supervisors (1990) 52 Cal.3d 553, 569; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197.)

As stated by the Court of Appeal in this case, where an EIR has addressed a topic, but the petitioner claims that the information provided about that topic is insufficient, courts must "draw[] a line that divides *sufficient* discussions from those that are *insufficient*." (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) The Court of Appeal readily admitted that "[t]he terms themselves – sufficient and insufficient – provide little, if any, guidance as to where the line should be drawn. They are simply labels applied once the court has completed its analysis." (*Id.*)

The CEQA Guidelines, however, provide guidance regarding what constitutes a sufficient discussion of impacts. Section 15151 states that "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." Case law reflects this: "Analysis of environmental effects need not be exhaustive, but will be judged in light of what was reasonably feasible." (*Association of Irritated Residents v. County of Madera, supra,* 107 Cal.App.4th at p. 1390; see also CEQA Guidelines § 15204(a).)

Applying this test, this Court cannot realistically establish a hard-and-fast rule that an analysis correlating air pollution impacts of a project to quantified resulting health impacts is always required, or indeed that it is never required. Simply put, in some cases such an analysis will be "feasible"; in some cases it will not.

For example, air pollution control districts often require a proposed new source of toxic air contaminants to prepare a "health risk assessment" before issuing a permit to construct. District rules often limit the allowable cancer risk the new source may cause to the "maximally exposed individual" (worker and residence exposures). (*See, e.g.*, SCAQMD Rule 1401(c)(8); 1401(d)(1), *supra* note 15.) In order to perform this analysis, it

is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). (SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588), pp. 11-16*; (last visited Apr. 1, 2015) http://www.aqmd.gov/home/library/documents-support-material; "Guidelines" hyperlink; AB2588; then follow AB2588 Risk Assessment Guidelines hyperlink.)

Thus, it is feasible to determine the health risk posed by a new gas station locating at an intersection in a mixed use area, where receptor locations are known. On the other hand, it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s)). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk—it does not necessarily mean anyone will contract cancer as a result of the project.

In order to find the "cancer burden" or expected additional cases of cancer resulting from the project, it is also necessary to know the numbers and location of individuals living within the "zone of impact" of the project: i.e., those living in areas where the projected cancer risk from the project exceeds one in a million. (SCAQMD, Health Risk Assessment Summary form, http://www.aqmd.gov/home/forms ; filter by "AB2588" category; then "Health Risk Assessment" hyperlink (last visited Apr. 1, 2015).) The affected population is divided into bands of those exposed to at least 1 in a million risk, those exposed to at least 10 in a million risk, etc. up to those exposed at the highest levels. (*Id.*) This data allows agencies to calculate an approximate number of additional cancer cases expected from

the project. However, it is not possible to predict which particular individuals will be affected.

For the so-called criteria pollutants[5], such as ozone, it may be more difficult to quantify health impacts. Ozone is formed in the atmosphere from the chemical reaction of the nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. (U.S. EPA, Ground Level Ozone, http://www.epa.gov/airquality/ozonepollution/ (last updated Mar. 25, 2015).) It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. (U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2, http://www.epa.gov/ttnamti1/archive/cpreldoc.html (last visited Apr. 1, 2015).) NO_x and VOC are known as "precursors" of ozone.

Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes. (U.S. EPA, *Health Effects of Ozone in the General Population,* Figure 9, http://www.epa.gov/apti/ozonehealth/population.html#levels (last visited Apr. 1, 2015).) However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NO_x by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. (South Coast Air Quality Management District, *Final 2012 AQMP (February 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Appendix V: Modeling & Attainment Demonstrations" hyperlink,

[5] See discussion of types of pollutants, supra, Part I.A.

pp. v-4-2, v-7-4, v-7-24.) SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from relatively small projects.

On the other hand, this type of analysis may be feasible for projects on a regional scale with very high emissions of NO_x and VOCs, where impacts are regional. For example, in 2011 the SCAQMD performed a health impact analysis in its CEQA document for proposed Rule 1315, which authorized various newly-permitted sources to use offsets from the districts "internal bank" of emission reductions. This CEQA analysis accounted for essentially *all* the increases in emissions due to new or modified sources in the District between 2010 and 2030.[6] The SCAQMD was able to correlate this very large emissions increase (e.g., 6,620 pounds per day NO_x (1,208 tons per year), 89,180 pounds per day VOC (16,275 tons per year)) to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).[7] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System* (see hyperlink in fn 6*)* at p. 4.1-35, Table 4.1-29.)

---

[6] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, Attachment G, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System, Vol. 1, p.4.0-6,* http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-february-4-2011; the follow "26. Adopt Proposed Rule 1315 – Federal New Source Review Tracking System" (last visited April 1, 2015).)

[7] The SCAQMD was able to establish the location of future NO_x and VOC emissions by assuming that new projects would be built in the same locations and proportions as existing stationary sources. This CEQA document was upheld by the Los Angeles County Superior Court in *Natural Res. Def. Council v SCAQMD*, Los Angeles Superior Court No. BS110792).

However, a project emitting only 10 tons per year of NO_x or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or NO_x with specific health impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission. (EPA Guideline on Ozone Monitoring Site Selection (Aug. 1998) EPA-454/R-98-002, § 5.1.2; https://www.epa.gov/ttnamti1/archive/cpreldoc.html; then search "Guideline on Ozone Monitoring Site Selection" click on pdf) (last viewed Apr. 1, 2015).)

SCAQMD has set its CEQA "significance" threshold for NO_x and VOC at 10 tons per year (expressed as 55 lb/day). (SCAQMD, *Air Quality Analysis Handbook*, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook; then follow "SCAQMD Air Quality Significance Thresholds" hyperlink (last visited Apr. 1, 2015).) This is because the federal Clean Air Act defines a "major" stationary source for "extreme" ozone nonattainment areas such as SCAQMD as one emitting 10 tons/year. (42 U.S.C. §§ 7511a(e), 7511a(f); CAA §§ 182(e), 182(f).) Under the Clean Air Act, such sources are subject to enhanced control requirements (42 U.S.C. §§ 7502(c)(5), 7503; CAA §§ 172(c)(5), 173), so SCAQMD decided this was an appropriate threshold for making a CEQA "significance" finding and requiring feasible mitigation. Essentially, SCAQMD takes the position that a source that emits 10 tons/year of NO_x or VOC would contribute cumulatively to ozone formation. Therefore, lead agencies that use SCAQMD's thresholds of significance may determine

that many projects have "significant" air quality impacts and must apply all feasible mitigation measures, yet will not be able to precisely correlate the project to quantifiable health impacts, unless the emissions are sufficiently high to use a regional modeling program.

In the case of particulate matter ($PM_{2.5}$)[8], another "criteria" pollutant, SCAQMD staff is aware of two possible methods of analysis. SCAQMD used regional modeling to predict expected health impacts from its proposed Rule 1315, as mentioned above. Also, the California Air Resources Board (CARB) has developed a methodology that can predict expected mortality (premature deaths) from large amounts of $PM_{2.5}$. (California Air Resources Board, *Health Impacts Analysis: PM Premature Death Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort_arch.htm (last reviewed Jan. 19, 2012).) SCAQMD used the CARB methodology to predict impacts from three very large power plants (e.g., 731-1837 lbs/day). (Final Environmental Assessment for Rule 1315, *supra*, pp 4.0-12, 4.1-13, 4.1-37 (e.g., 125 premature deaths in the entire SCAQMD in 2030), 4.1-39 (0.05 to 1.77 annual premature deaths from power plants.) Again, this project involved large amounts of additional $PM_{2.5}$ in the District, up to 2.82 tons/day (5,650 lbs/day of $PM_{2.5}$, or, or 1029 tons/year. (*Id.* at table 4.1-4, p. 4.1-10.)

However, the primary author of the CARB methodology has reported that this $PM_{2.5}$ health impact methodology is not suited for small projects and may yield unreliable results due to various uncertainties. [9] (SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren*

---

[8] SCAQMD has not attained the latest annual or 24-hour national ambient air quality standards for "$PM_{2.5}$" or particulate matter less than 2.5 microns in diameter.

[9] Among these uncertainties are the representativeness of the population used in the methodology, and the specific source of PM and the corresponding health impacts. (*Id.* at p. 2-24.)

E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011), http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2011; then follow "Final Subsequent Mitigated Negative Declaration for Warren E&P Inc. WTU Central Facility, New Equipment Project" hyperlink, pp. 2-22, 2-23 (last visited Apr. 1, 2015).) Therefore, when SCAQMD prepared a CEQA document for the expansion of an existing oil production facility, with very small $PM_{2.5}$ increases (3.8 lb/day) and a very small affected population, staff elected not to use the CARB methodology for using estimated $PM_{2.5}$ emissions to derive a projected premature mortality number and explained why it would be inappropriate to do so. (*Id.* at pp 2-22 to 2-24.) SCAQMD staff concluded that use of this methodology for such a small source could result in unreliable findings and would not provide meaningful information. (*Id.* at pp. 2-23, 2-25.) This CEQA document was not challenged in court.

In the above case, while it may have been technically possible to plug the data into the methodology, the results would not have been reliable or meaningful. SCAQMD believes that an agency should not be required to perform analyses that do not produce reliable or meaningful results. This Court has already held that an agency may decline to use even the "normal" "existing conditions" CEQA baseline where to do so would be misleading or without informational value. (*Neighbors for Smart Rail v. Exposition Metro Line* (2013) 57 Cal.4th 439, 448, 457.) The same should be true for a decision that a particular study or analysis would not provide reliable or meaningful results.[10]

---

[10] Whether a particular study would result in "informational value" is a part of deciding whether it is "feasible." CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and

Therefore, it is not possible to set a hard-and-fast rule on whether a correlation of air quality impacts with specific quantifiable health impacts is required in all cases. Instead, the result turns on whether such an analysis is reasonably feasible in the particular case.[11] Moreover, what is reasonably feasible may change over time as scientists and regulatory agencies continually seek to improve their ability to predict health impacts. For example, CARB staff has been directed by its Governing Board to reassess and improve the methodology for estimating premature deaths. (California Air Resources Board, *Health Impacts Analysis: PM Mortality Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm (last reviewed Dec. 29, 2010).) This factor also counsels against setting any hard-and-fast rule in this case.

III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW.

A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document

A second issue in this case is whether courts should review an EIR's informational sufficiency under the "substantial evidence" test as argued by Friant Ranch or the "independent judgment" test as argued by Sierra Club.

---

technological factors." (Pub. Resources Code § 21061.1.) A study cannot be "accomplished in a *successful* manner" if it produces unreliable or misleading results.

[11] In this case, the lead agency did not have an opportunity to determine whether the requested analysis was feasible because the comment was non-specific. Therefore, SCAQMD suggests that this Court, after resolving the legal issues in the case, direct the Court of Appeal to remand the case to the lead agency for a determination of whether the requested analysis is feasible. Because Fresno County, the lead agency, did not seek review in this Court, it seems likely that the County has concluded that at least some level of correlation of air pollution with health impacts is feasible.

As this Court has explained, "a reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on whether the claim is predominantly one of improper procedure or a dispute over the facts." (*Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 435.) For questions regarding compliance with proper procedure or other legal questions, courts review an agency's action de novo under the "independent judgment" test. (*Id.*) On the other hand, courts review factual disputes only for substantial evidence, thereby "accord[ing] greater deference to the agency's substantive factual conclusions." (*Id.*)

Here, Friant Ranch and Sierra Club agree that the case involves the question of whether an EIR includes sufficient information regarding a project's impacts. However, they disagree on the proper standard of review for answering this question: Sierra Club contends that courts use the independent judgment standard to determine whether an EIR's analysis is sufficient to meet CEQA's informational purposes,[12] while Friant Ranch contends that the substantial evidence standard applies to this question.

///

///

///

///

///

///

///

///

///

---

[12] Sierra Club acknowledges that courts use the substantial evidence standard when reviewing predicate factual issues, but argues that courts ultimately decide as a matter of law what CEQA requires. (Answering Brief, pp. 14, 23.)

SCAQMD submits that the issue is more nuanced than either party contends. We submit that, whether a CEQA document includes sufficient analysis to satisfy CEQA's informational mandates is a mixed question of fact and law,[13] containing two levels of inquiry that should be judged by different standards.[14]

The state CEQA Guidelines set forth standards for the adequacy of environmental analysis. Guidelines Section 15151 states:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

In this case, the basic question is whether the underlying analysis of air quality impacts made the EIR "sufficient" as an informative document. However, whether the EIR's analysis was sufficient is judged in light of what was reasonably feasible. This represents a mixed question of fact and law that is governed by two different standards of review.

---

[13] Friant Ranch actually states that the claim that an EIR lacks sufficient relevant information is, "most properly thought of as raising mixed questions of fact and law." (Opening Brief, p. 27.) However, the remainder of its argument claims that the court should apply the substantial evidence standard of review to all aspects of the issue.

[14] Mixed questions of fact and law issues may implicate predominantly factual subordinate questions that are reviewed under the substantial evidence test even though the ultimate question may be reviewed by the independent judgment test. *Crocker National Bank v. City and County of San Francisco* (1989) 49 Cal.3d 881, 888-889.

SCAQMD submits that an EIR's sufficiency as an informational document is ultimately a legal question that courts should determine using their independent judgment. This Court's language in *Laurel Heights I* supports this position. As this Court explained: "The court does not pass upon the correctness of the EIR's environmental conclusions, but only upon its *sufficiency as an informative document.*" (*Laurel Heights I, supra*, 47 Cal.3d at 392-393) (emphasis added.) As described above, the Court in *Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 431, also used its independent judgment to determine what level of analysis CEQA requires for water supply impacts. The Court did not defer to the lead agency's opinion regarding the law's requirements; rather, it determined for itself what level of analysis was necessary to meet "[t]he law's informational demands." (*Id.* at p. 432.) Further, existing case law also holds that where an agency fails to comply with CEQA's information disclosure requirements, the agency has "failed to proceed in the manner required by law." (*Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 118.)

However, whether an EIR satisfies CEQA's requirements depends in part on whether it was reasonably feasible for an agency to conduct additional or more thorough analysis. EIRs must contain "a detailed statement" of a project's impacts (Pub. Res. Code § 21061), and an agency must "use its best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144.) Nevertheless, "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." (CEQA Guidelines § 15151.)

SCAQMD submits that the question of whether additional analysis or a particular study suggested by a commenter is "feasible" is generally a question of fact. Courts have already held that whether a particular alternative is "feasible" is reviewed by the substantial evidence test.

(*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 598-99; *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866, 883.) Thus, if a lead agency determines that a particular study or analysis is infeasible, that decision should generally be judged by the substantial evidence standard. However, SCAQMD urges this Court to hold that lead agencies must explain the basis of any determination that a particular analysis is infeasible in the EIR itself. An EIR must discuss information, including issues related to the feasibility of particular analyses "in sufficient detail to enable meaningful participation and criticism by the public. '[W]hatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.'" (*Laurel Heights I, supra*, 47 Cal.3d at p. 405 (quoting *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831) (discussing analysis of alternatives).) The evidence on which the determination is based should also be summarized in the EIR itself, with appropriate citations to reference materials if necessary. Otherwise commenting agencies such as SCAQMD would be forced to guess where the lead agency's evidence might be located, thus thwarting effective public participation.

Moreover, if a lead agency determines that a particular study or analysis would not result in reliable or useful information and for that reason is not feasible, that determination should be judged by the substantial evidence test. (See *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority, supra*, 57 Cal.4th 439, 448, 457:

whether "existing conditions" baseline would be misleading or uninformative judged by substantial evidence standard.[15])

If the lead agency's determination that a particular analysis or study is not feasible is supported by substantial evidence, then the agency has not violated CEQA's information disclosure provisions, since it would be infeasible to provide additional information. This Court's decisions provide precedent for such a result. For example, this Court determined that the issue of whether the EIR should have included a more detailed discussion of future herbicide use was resolved because substantial evidence supported the agency's finding that "the precise parameters of future herbicide use could not be predicted." *Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection* (2008) 43 Cal.4th 936, 955.

Of course, SCAQMD expects that courts will continue to hold lead agencies to their obligations to consult with, and not to ignore or misrepresent, the views of sister agencies having special expertise in the area of air quality. (*Berkeley Keep Jets Over the Bay v. Board of Port Commissioners* (2007) 91 Cal.App.4th 1344, 1364 n.11.) In some cases, information provided by such expert agencies may establish that the purported evidence relied on by the lead agency is not in fact "substantial". (*Id.* at pp. 1369-1371.)

In sum, courts retain ultimate responsibility to determine what CEQA requires. However, the law does not require exhaustive analysis, but only what is reasonably feasible. Agencies deserve deference for their factual determinations regarding what type of analysis is reasonably feasible. On the other hand, if a commenter requests more information, and the lead agency declines to provide it but does *not* determine that the

---

[15] The substantial evidence standard recognizes that the courts "have neither the resources nor the scientific expertise" to weigh conflicting evidence on technical issues. (*Laurel Heights I, supra,* 47 Cal.3d 376, 393.)

requested study or analysis would be infeasible, misleading or uninformative, the question becomes whether the omission of that analysis renders the EIR inadequate to satisfy CEQA's informational purposes. (*Id.* at pp. 1370-71.) Again, this is predominantly a question of law and should be judged by the de novo or independent judgment standard of review. Of course, this Court has recognized that a "project opponent or reviewing court can always imagine some additional study or analysis that might provide helpful information. It is not for them to design the EIR. That further study...might be helpful does not make it necessary." (*Laurel Heights I, supra,* 47 Cal.3d 376, 415 – see also CEQA Guidelines § 15204(a) [CEQA "does not require a lead agency to conduct every test. . . recommended or demanded by commenters."].) Courts, then, must adjudicate whether an omission of particular information renders an EIR inadequate to serve CEQA's informational purposes.[16]

---

[16] We recognize that there is case law stating that the substantial evidence standard applies to "challenges to the scope of an EIR's analysis of a topic" as well as the methodology used and the accuracy of the data relied on in the document "because these types of challenges involve factual questions." (*Bakersfield Citizens for Local Control v. City of Bakersfield, supra,* 124 Cal.App.4th 1184, 1198, and cases relied on therein.) However, we interpret this language to refer to situations where the question of the scope of the analysis really is factual—that is, where it involves whether further analysis is feasible, as discussed above. This interpretation is supported by the fact that the *Bakersfield* court expressly rejected an argument that a claimed "omission of information from the EIR should be treated as inquiries whether there is substantial evidence supporting the decision approving the project. " *Bakersfield, supra,* 124 Cal.App.4th at p. 1208. And the *Bakersfield* court ultimately decided that the lead agency must analyze the connection between the identified air pollution impacts and resulting health impacts, even though the EIR already included some discussion of air-pollution-related respiratory illnesses. *Bakersfield, supra,* 124 Cal.App.4th at p. 1220. Therefore, the court must not have interpreted this question as one of the "scope of the analysis" to be judged by the substantial evidence standard.

B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law.

In its brief, Friant Ranch makes a distinction between cases where a required CEQA topic is not discussed at all (to be reviewed by independent judgment as a failure to proceed in the manner required by law) and cases where a topic is discussed, but the commenter claims the information provided is insufficient (to be judged by the substantial evidence test). (Opening Brief, pp. 13-17.) The Court of Appeal recognized these two types of cases, but concluded that both raised questions of law. (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) We believe the distinction drawn by Friant Ranch is unduly narrow, and inconsistent with cases which have concluded that CEQA documents are insufficient. In many instances, CEQA's requirements are stated broadly, and the courts must interpret the law to determine what level of analysis satisfies CEQA's mandate for providing meaningful information, even though the EIR discusses the issue to some extent.

For example, the CEQA Guidelines require discussion of the existing environmental baseline. In *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 954-955, the lead agency had discussed the environmental baseline by describing historic month-end water levels in the affected lakes. However, the court held that this was not an adequate baseline discussion because it failed to discuss the timing and amounts of past actual water releases, to allow comparison with the proposed project. The court evidently applied the independent judgment test to its decision, even though the agency discussed the issue to some extent.

Likewise, in *Vineyard Area Citizens* (2007) 40 Cal.4th 412, this Court addressed the question of whether an EIR's analysis of water supply impacts complied with CEQA. The parties agreed that the EIR was required to analyze the effects of providing water to the development project, "and that in order to do so the EIR had, in some manner, to identify the planned sources of that water." (*Vineyard Area Citizens, supra,* at p. 428.) However, the parties disagreed as to the level of detail required for this analysis and "what level of uncertainty regarding the availability of water supplies can be tolerated in an EIR . . . ." (*Id.*) In other words, the EIR had analyzed water supply impacts for the project, but the petitioner claimed that the analysis was insufficient.

This Court noted that neither CEQA's statutory language or the CEQA Guidelines specifically addressed the question of how precisely an EIR must discuss water supply impacts. (*Id.*) However, it explained that CEQA "states that '[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.'" (*Id.*, [Guidelines § 15144].) The Court used this general principle, along with prior precedent, to elucidate four "principles for analytical adequacy" that are necessary in order to satisfy "CEQA's informational purposes." (*Vineyard Area Citizens, supra,* at p. 430.) The Court did not defer to the agency's determination that the EIR's analysis of water supply impacts was sufficient. Rather, this Court used its independent judgment to determine for itself the level of analysis required to satisfy CEQA's fundamental purposes. (*Vineyard Area Citizens, supra*, at p. 441: an EIR does not serve its purposes where it neglects to explain likely sources of water and "... leaves long term water supply considerations to later stages of the project.")

Similarly, the CEQA Guidelines require an analysis of noise impacts of the project. (Appendix G, "Environmental Checklist Form."[17]) In *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1123, the court held that the lead agency's noise impact analysis was inadequate even though it had addressed the issue and concluded that the increase would not be noticeable. If the court had been using the substantial evidence standard, it likely would have upheld this discussion.

Therefore, we do not agree that the issue can be resolved on the basis suggested by Friant Ranch, which would apply the substantial evidence standard to *every* challenge to an analysis that addresses a required CEQA topic. This interpretation would subvert the courts' proper role in interpreting CEQA and determining what the law requires.

Nor do we agree that the Court of Appeal in this case violated CEQA's prohibition on courts interpreting its provisions "in a manner which imposes procedural or substantive requirements beyond those explicitly stated in this division or in the state guidelines." (Pub. Resources Code § 21083.1.) CEQA requires an EIR to describe *all* significant impacts of the project on the environment. (Pub. Resources Code § 21100(b)(2); *Vineyard Area Citizens, supra,* at p. 428.) Human beings are part of the environment, so CEQA requires EIRs to discuss a project's significant impacts on human health. However, except in certain particular circumstances,[18] neither the CEQA statute nor Guidelines specify the precise level of analysis that agencies must undertake to satisfy the law's requirements. (see, e.g., CEQA Guidelines § 15126.2(a) [EIRs must describe "health and safety problems caused by {a project's} physical changes"].) Accordingly, courts must interpret CEQA as a whole to

[17] Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) p.287.

[18] E.g., Pub. Resources Code § 21151.8(C)(3)(B)(iii) (requiring specific type of health risk analysis for siting schools).

determine whether a particular EIR is sufficient as an informational document. A court determining whether an EIR's discussion of human health impacts is legally sufficient does not constitute imposing a new substantive requirement.[19] Under Friant Ranch's theory, the above-referenced cases holding a CEQA analysis inadequate would have violated the law. This is not a reasonable interpretation.

IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS

Courts must "scrupulously enforce" CEQA's legislatively mandated requirements. (*Vineyard Area Citizens, supra*, 40 Cal.4th 412, 435.) Case law has firmly established that lead agencies must consult with the relevant air pollution control district before conducting an initial study, and must provide the districts with notice of the intention to adopt a negative declaration (or EIR). (*Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 958.) As *Schenck* held, neither publishing the notice nor providing it to the State Clearinghouse was a sufficient substitute for sending notice directly to the air district. (*Id.*) Rather, courts "must be satisfied that [administrative] agencies have fully complied with the procedural requirements of CEQA, since only in this way can the important public purposes of CEQA be protected from subversion." *Schenck,* 198 Cal.App.4th at p. 959 (citations omitted).[20]

---

[19] We submit that Public Resources Code Section 21083.1 was intended to prevent courts from, for example, holding that an agency must analyze economic impacts of a project where there are no resulting environmental impacts (see CEQA Guidelines § 15131) , or imposing new procedural requirements, such as imposing additional public notice requirements not set forth in CEQA or the Guidelines.

[20] Lead agencies must consult air districts, as public agencies with jurisdiction by law over resources affected by the project, *before* releasing an EIR. (Pub. Resources Code §§ 21104(a); 21153.) Moreover, air

Lead agencies should be aware, therefore, that failure to properly seek and consider input from the relevant air district constitutes legal error which may jeopardize their project approvals. For example, the court in *Fall River Wild Trout Foundation v. County of Shasta,* (1999) 70 Cal.App.4th 482, 492 held that the failure to give notice to a trustee agency (Department of Fish and Game) was prejudicial error requiring reversal. The court explained that the lack of notice prevented the Department from providing any response to the CEQA document. (*Id.* at p. 492.) It therefore prevented relevant information from being presented to the lead agency, which was prejudicial error because it precluded informed decision-making. (*Id.*)[21]

---

districts should be considered "state agencies" for purposes of the requirement to consult with "trustee agencies" as set forth in Public Resources Code § 20180.3(a). This Court has long ago held that the districts are not mere "local agencies" whose regulations are superseded by those of a state agency regarding matters of statewide concern, but rather have concurrent jurisdiction over such issues. (*Orange County Air Pollution Control District v. Public Util. Com.* (1971) 4 Cal.3d 945, 951, 954.) Since air pollution is a matter of statewide concern, *Id* at 952, air districts should be entitled to trustee agency status in order to ensure that this vital concern is adequately protected during the CEQA process.

[21] In *Schenck,* the court concluded that failure to give notice to the air district was not prejudicial, but this was partly because the trial court had already corrected the error before the case arrived at the Court of Appeal. The trial court issued a writ of mandate requiring the lead agency to give notice to the air district. The air district responded by concurring with the lead agency that air impacts were not significant. (*Schenck,* 198 Cal.App.4th 949, 960.) We disagree with the *Schenck* court that the failure to give notice to the air district would not have been prejudicial (even in the absence of the trial court writ) merely because the lead agency purported to follow the air district's published CEQA guidelines for significance. (*Id.*, 198 Cal.App.4th at p. 960.) In the first place, absent notice to the air district, it is uncertain whether the lead agency properly followed those guidelines. Moreover, it is not realistic to expect that an air district's published guidelines would necessarily fully address all possible air-quality related issues that can arise with a CEQA project, or that those

Similarly, lead agencies must obtain additional information requested by expert agencies, including those with jurisdiction by law, if that information is necessary to determine a project's impacts. (*Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236-37.) Approving a project without obtaining that information constitutes a failure to proceed in the manner prescribed by CEQA. (*Id.* at p. 1236.)

Moreover, a lead agency can save significant time and money by consulting with the air district early in the process. For example, the lead agency can learn what the air district recommends as an appropriate analysis on the facts of its case, including what kinds of health impacts analysis may be available, and what models are appropriate for use. This saves the lead agency from the need to do its analysis all over again and possibly needing to recirculate the document after errors are corrected, if new significant impacts are identified. (CEQA Guidelines § 15088.5(a).) At the same time, the air district's expert input can help the lead agency properly determine whether another commenter's request for additional analysis or studies is reasonable or feasible. Finally, the air district can provide input on what mitigation measures would be feasible and effective.

Therefore, we suggest that this Court provide guidance to lead agencies reminding them of the importance of consulting with the relevant air districts regarding these issues. Otherwise, their feasibility decisions may be vulnerable to air district evidence that establishes that there is no substantial evidence to support the lead agency decision not to provide specific analysis. (*See Berkeley Keep Jets Over the Bay, supra,* 91 Cal.App.4th 1344, 1369-1371.)

---

guidelines would necessarily be continually modified to reflect new developments. Therefore we believe that, had the trial court not already ordered the lead agency to obtain the air district's views, the failure to give notice would have been prejudicial, as in *Fall River, supra,* 70 Cal.App.4th 482, 492.

CONCLUSION

The SCAQMD respectfully requests this Court *not* to establish a hard-and-fast rule concerning whether CEQA requires a lead agency to correlate identified air quality impacts of a project with resulting health outcomes. Moreover, the question of whether an EIR is "sufficient as an informational document" is a mixed question of fact and law containing two levels of inquiry. Whether a particular proposed analysis is feasible is predominantly a question of fact to be judged by the substantial evidence standard of review. Where the requested analysis is feasible, but the lead agency relies on legal or policy reasons not to provide it, the question of whether the EIR is nevertheless sufficient as an informational document is predominantly a question of law to be judged by the independent judgment standard of review.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
KURT R. WIESE, GENERAL COUNSEL
BARBARA BAIRD, CHIEF DEPUTY COUNSEL

By: Barbara Baird
Barbara Baird
Attorneys for Amicus Curiae
SOUTH COAST AIR QUALITY MANAGEMENT DISTICT

CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.520(c)(1) of the California Rules of Court, I hereby certify that this brief contains 8,476 words, including footnotes, but excluding the Application, Table of Contents, Table of Authorities, Certificate of Service, this Certificate of Word Count, and signature blocks. I have relied on the word count of the Microsoft Word Vista program used to prepare this Certificate.

DATED: April 3, 2015 Respectfully submitted,

Barbara Baird

Barbara Baird

PROOF OF SERVICE

I am employed in the County of Los Angeles, California. I am over the age of 18 years and not a party to the within action. My business address is 21865 Copley Drive, Diamond Bar, California 91765.

On April 3, 2015 I served true copies of the following document(s) described as **APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*** by placing a true copy of the foregoing document(s) in a sealed envelope addressed as set forth on the attached service list as follows:

BY MAIL: I enclosed the document(s) in a sealed envelope or package addressed to the persons at the addresses listed in the Service List and placed the envelope for collection and mailing following our ordinary business practices. I am readily familiar with this District's practice for collection and processing of correspondence for mailing. Under that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid at Diamond Bar, California, in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on April 3, 2015 at Diamond Bar, California.

Patricia Anderson

SERVICE LIST

James G. Moose, Tiffany K. Wright, Laura M. Harris REMY MOOSE MANLEY, LLP 555 Capitol Mall, Suite 800 Sacramento, CA 95814	Attorneys for Real Party in Interest and Respondent *Friant Ranch, L.P.*
Bryan N. Wagner WAGNER & WAGNER 7110 N. Fresno St, Suite 340 Fresno, CA 93720	Attorney for Real Party in Interest and Respondent *Friant Ranch, L.P.*
Sara Hedgpeth-Harris LAW OFFICE OF SARA HEDGPETH-HARRIS 5445 E. Lane Avenue Fresno, CA 93727	Attorney for Plaintiffs and Appellants *Sierra Club, et al*
Daniel C. Cederborg Bruce B. Johnson, Jr. Zachary Stephen Redmond OFFICE OF THE FRESNO COUNTY COUNSEL 2220 Tulare Street, Suite 500 Fresno, CA 93721	Attorneys for Respondents *County of Fresno*
Clerk of the Court California Court of Appeal Fifth Appellate District 2424 Ventura Street Fresno, CA 93721 *(via U.S. Mail & Electronic Transmission)*	
Clerk of the Court Superior Court of California County of Fresno 1130 O Street Fresno, CA 93721	

This page intentionally left blank

Appendix 3

MSHCP Consistency Analysis

MSHCP Consistency Analysis for A 10.12-Acre Property Located in the City Of Wildomar, Riverside County, California

(Assessor's Parcel Nos. 376-410-015, 376-410-016, 376-410-017, and 376-410-021)

Located Within Section 36 of Township 6 South, Range 4 West, of the Murrieta, California Quadrangle

Prepared for:

City of Wildomar

and

Ralph W. Deppisch, Director of Development
Sage Investco, LLC
4340 Von Karman Avenue, #110
Newport Beach, California 92660

Prepared by:

TERACOR Resource Management, Inc.
41635 Enterprise Circle North, Suite B
Temecula, California 92590
Office: (951) 694-8000
Fax: (951) 694-8035
contact: Samuel Reed, Principal

30 June 2022

Table of Contents

1.0 EXECUTIVE SUMMARY 1
2.0 INTRODUCTION 3
2.1 Project Area 3
2.2 Project Description 3
2.3 Covered Roads 4
2.4 Covered Public Access Activities 4
2.5 General Setting 4
3.0 RESERVE ASSEMBLY ANALYSIS 9
3.1 Public Quasi-Public Lands 9
3.1.1 Public Quasi-Public Lands in Reserve Assembly Analysis 9
3.1.2 Project Impacts to Public Quasi-Public Lands 9
4.0 VEGETATION MAPPING 10
5.0 PROTECTION OF SPECIES - RIPARIAN/RIVERINE/VERNAL POOL ANALYSIS 12
5.1 Riparian/Riverine 19
5.1.1 Methods 19
5.1.2 Existing Conditions and Results 21
5.1.3 Impacts 23
5.1.4 Mitigation 23
5.2 Vernal Pools 23
5.2.1 Methods 23
5.2.2 Existing Conditions and Results 24
5.2.3 Impacts 25
5.2.4 Mitigation 25
5.3 Fairy Shrimp 25
5.3.1 Methods 25
5.3.4 Mitigation 25
5.4 Riparian Birds 25
5.5 Other Section 6.1.2 Species 25
6.0 Protection of Narrow Endemic Plant Species (MSHCP Section 6.1.3) 26
7.0 Additional Survey Needs and Procedures (MSHCP Section 6.3.2) 26
8.0 Information on Other Species 27
8.1 Delhi Sands Flower Loving Fly 27
8.1.1 Methods 27
8.1.2 Existing Conditions and Results 27
8.1.3 Impacts 27
8.1.4 Mitigation 28
8.2 Species Not Adequately Covered 28

9.0 Urban/Wildlands Interface 33
10.0 Best Management Practices……34
11.0 MSHCP Project Impacts and Recommended Mitigation Measures ……35
12.0 References 37

List of Tables

Table 1 – Soil Types 5
Table 2 – Vegetation Alliances 12
Table 3 – Riparian/Riverine and Vernal Pool Species (MSHCP Section 6.1.2) 13
Table 4 – Potential Riparian/Riverine/Vernal Pool Resources 23
Table 5 – Covered Species Not Adequately Conserved (MSHCP Table 9 – 3) 28

Appendix A – Faunal Species Observed A-1
Appendix B – Floral Species Observed B-1
Appendix C – References C-1
Appendix D – List of Abbreviations/Acronyms D-1

List of Appended Exhibits

Exhibit 1 - Regional Location ..... Attached In Order
Exhibit 2 - USGS Topo ..... Attached In Order
Exhibit 3 - Site Photos ..... Attached In Order
Exhibit 4 - Soils ..... Attached In Order
Exhibit 5 – Historic Aerial 1938 ..... Attached In Order
Exhibit 6 – Historic Aerial 1978 ..... Attached In Order
Exhibit 7 – Historic Aerial 1996 ..... Attached In Order
Exhibit 8 – Historic Aerial 2002 ..... Attached In Order

Exhibit 9 – Historic Aerial 2006 ..... Attached In Order
Exhibit 10 – Historic Aerial 2009 ..... Attached In Order
Exhibit 11 – Aerial Photo 2021 ..... Attached In Order
Exhibit 12 - RCA MSHCP Information Map – Public Quasi Public Conserved Lands ..... Attached In Order
Exhibit 13 – Vegetation Alliances ..... Attached In Order
Exhibit 14 – Potential Riparian/Riverine/Vernal Pool Resources ..... Attached In Order
Exhibit 15 – Potential Riparian/Riverine/VP Features ..... Attached In Order
Exhibit 16 – CNDDB Occurrences ..... Attached In Order

1.0 Executive Summary

The proposed project Wildomar Crossroads, a proposed mixed-use project, is located at 24850-23980 Catt Road, Wildomar, California 92595. It lies within the southeast portion of the City of Wildomar, at the northwest intersection of Clinton Keith Road and Wildomar Trail.

Reserve Assembly Analysis: The property lies outside of any designated conservation areas of the *Western Riverside Multi-Species Habitat Conservation Plan* (MSHCP). Hence, the property is not with a Criteria Cell, and so it does not require evaluation for conservation under the Plan. This is discussed in *Section 3.0 – Reserve Assembly Analysis* of this report.

Section 6.1.2 Riparian/Riverine Vernal Pool: Four (4) separate subareas on-site were evaluated for Riparian/Riverine resources, and these potential R/R/VP areas have been mapped on-site. The total area of these potential features combined was 0.072 acre (3,136 sq.ft). Our investigation and subsequent evaluation led TERACOR to conclude there are no Riparian/Riverine or Vernal Pools or similar structures on-site. This conclusion was based on several factors including the beheading and truncation of a blue-line ephemeral drainage, extensive dumping and stockpiling on-site, intensive animal husbandry, prior orchard development on the site and construction of area roadways and commercial centers which left the site isolated and lowered relative to adjacent properties. Because Riparian/Riverine/VP resources appear to be absent, we concluded the Project would not affect MSHCP R/R/VP resources.

Section 6.1.3 Narrow Endemic/Criteria Area Plant Species: The proposed Project site does not lie within a Narrow Endemic Plant Survey Area or Criteria Area Plant Species survey area; as such, no surveys were required. While conducting vegetation and burrowing owl surveys, vegetation detected on-site was identified, recorded, and included in this report as *Appendix B – Floral Compendium*. No narrow endemic or criteria area plants were incidentally detected during the initial Habitat Assessment on 16 March 2022 through the last site visit on 15 June 2022.

Section 6.1.4 Urban Wildlands Interface: The proposed Project site is surrounded on four (4) sides by urban development. Tract No. 30155 to the north contains a small natural area (perhaps a water quality basin), but it is separated by a block wall and lies above the Project site hydrologically. The subject site is not adjacent to other MSHCP-designated Conservation or Quasi-Public lands, and. Nonetheless, the Project was evaluated as to its potential to generate stormwater or nuisance drainage, toxics, lighting, noise and invasive plants that might potentially downstream washes or creeks (Murrieta Creek watershed) which could include Public or Quasi-public sites in Murrieta Creek, or the small conservation area to the immediate north.

A Water Quality Management Plan (WQMP) is required for this Project and must be reviewed and approved by the City of Wildomar which will implement specified Best Management Practices ("BMP's") and control and manage runoff. This would avoid potential impacts to downstream conserved lands.

Vegetation Mapping (MSHCP Section 6.3.1): Vegetation mapping has been provided in this Consistency Analysis in conformance with MSHCP Section 6.3.1 parameters. MSHCP Permittees (i.e., the City

of Wildomar) generally require vegetation mapping to be conducted. TERACOR worked in conjunction with 4M Engineering and Development to develop the mapping in a GIS/CADD format for presentation purposes. TERACOR undertook vegetation mapping of the Project site in a manner consistent with prevailing conventions and standard CDFW recommendations for *CEQA* compliance. We utilized Sawyer/Keeler-Wolf's *A Manual of California Vegetation*, 2nd edition, to classify vegetation communities (i.e., alliances, associations), supplemented with the California Department of Fish and Wildlife (CDFW) CaCode system (09 September 2020 version) to describe and refine our classifications of all on-site vegetative structures.

Additional Survey Needs and Procedures (MSHCP Section 6.3.2): Arroyos, washes and creeks are known to occur in the general vicinity not far from the Project site. Vernal pools, riparian vegetation, cienegas, tenajas, billabongs and similar areas appear absent on-site, although there is a remnant blue-line feature which was beheaded by implementation of Tract No. 30155 and truncated by rural activities prior to implementation of the Clean Water Act or California Fish and Game Code. Truncation was advanced even further with the full-width construction of both Wildomar Trail and Clinton Keith Road, as well as commercial development across from these two roadways. Small patches of mulefat are present in very small cells. These mulefat were mapped for close evaluation and consideration. Mulefat is generally considered stream-related, however, it can also occur on disturbed sites in upland conditions as it does on this site. No functional riparian scrub, woodland or forest alliances which are considered suitable as support habitat for MSHCP-protected riparian-dwelling organisms were mapped on the Project site. Furthermore, the site is not within Narrow Endemic/Criteria Area Plant Species Survey Areas. Lastly, the *RCA/MSHCP Information Map* indicated no predetermined need for focused surveys for any mammals, amphibians, invertebrates or plants. Lastly, there is no potential for those species for which adequate conservation has not yet been arranged to be present (*Table 3 - Covered Species Not Adequately Conserved* [MSHCP Table 9-3]).

Mammal Surveys: The proposed Project site does not require surveys for any mammal species. Ground squirrel is present in high numbers due to lowered vegetative density in disturbed areas. There were normal numbers of smaller fossorial mammal burrows on the site. There are no mammal survey requirements for the property, and none of the MSHCP-listed species have been detected. Therefore, there are no mammal conservation issues to discuss or analyze further in this report, as further supported by the analysis contained in *Table 3 - Covered Species Not Adequately Conserved* (MSHCP Table 9-3).

Riparian Birds: There are no functional riparian vegetative communities on the Project site that would justify focused surveys for least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo. Mulefat shrubs (0.05 acre) and three elderberry shrubs (0.01 acre) were too small in extent (and upland in nature) to justify riparian-obligate focused surveys. These two plant alliances are very limited in distribution on-site and generally are not suitable for least Bell's vireo, southwestern willow flycatcher, or western yellow-billed cuckoo or other riparian-obligate species. Focused riparian bird surveys were not warranted and were not conducted.

Amphibians/Reptiles: The project site does not support suitable habitat for the Section 6.1.2 listed amphibians which included arroyo toad, red-legged frog, and mountain yellow-legged frog. We did not observe natural pools, stock ponds, cienegas or tenajas which could provide breeding habitat for

western pond turtle. No amphibian larvae were observed at any time on-site as ponding or sustained water flow on the property was never observed.

Burrowing Owl: The MSHCP required a habitat assessment and the habitat assessment indicated that focused surveys should be conducted for burrowing owl in areas considered potentially-suitable for occupation, although areas of dense growth were excluded. A burrowing owl survey was performed in Spring 2022 in compliance with MSHCP/RCA/EPD guidelines; surveys were negative. Survey methodology and results are presented in a companion report.

Recommendations are included at the end of this report to address potential impacts of the Project (e.g., water quality runoff, follow up surveys prior to development, etc.) although TERACOR did not identify any resources identified as warranting specific mitigation required by the MSHCP.

2.0 Introduction

2.1 Project Area

The subject property is located within the Western Riverside County Multiple Species Habitat Conservation Plan ("MSHCP" or "Plan") area). *Exhibit 1 – Regional Location*, attached, depicts the Project site's location relative to other geographic features in the area. The following is quoted from Section 1.0 of the MSHCP:

"*The MSHCP is a comprehensive, multi-jurisdictional Habitat Conservation Plan ("HCP") focusing on Conservation of species and their associated Habitats in Western Riverside County. This Plan is one of several large, multi-jurisdictional habitat-planning efforts in Southern California with the overall goal of maintaining biological and ecological diversity within a rapidly urbanizing region… The MSHCP will allow Riverside County …and its Cities to better control local land-use decisions and maintain a strong economic climate in the region while addressing the requirements of the state and federal Endangered Species Acts.*"

2.2 Project Description

The proposed project would consist of demolishing the existing structures and other site improvements. A new mixed-use development, including a multi-family complex and commercial shopping center would be constructed. The Wildomar Crossroads site plan is incorporated in the application package.

The residential portion of the project is proposed for 4.48 acres of the site and includes 150 units ranging from 580 SF to 1,115 SF and will offer studio (8%), one-bedroom (54%), and two-bedroom (38%) plans with an anticipated 9 plan types in total. This development is proposed on the western side of the site with parking along the western and northern edges. The approximate density is 33.5 du/ac.

The commercial portion of the project is proposed for the eastern 4.53 acres of the site and includes a market, shops, and restaurants. The 23,104 square foot Sprouts Farmers Market and 5,087 square foot

attached building for shops and quick serve restaurants are located on the northern end of the commercial site. The restaurants are located at the southern end of the commercial site. Pad 1 is located in the southwest corner and is planned as a 2,750 square foot drive-thru. Pad 2 is located on the southeast corner and includes 3,348 square feet of restaurant space as well as a 1,133 square feet coffee drive-thru. The restaurants, consist of a maximum of 12,318 square feet of indoor space and approximately 4,500 square feet of outdoor eating areas and multi-function gathering space which will be open for breakfast, lunch and dinner daily. The hours of operation are yet to be determined. Up to 50 employees would be expected onsite at any one time.

2.3 Covered Roads

There are no new MSHCP designated "covered roads" proposed for this Project site.

2.4 Covered Public Access Activities

The Project site does not warrant consideration of Covered Public Access Activities. It is currently privately-owned and the Project is intended for commercial and residential uses.

2.5 General Setting

The subject property is located in the City of Wildomar within a rapidly-developing suburban area. Collector and arterial roadways border the site, and a residential tract (Tract No. 30155) was constructed over ten years ago to the north and west of the site. At this point in the City's development, we would consider the site and urban infill area with only remnants of the natural environment still found on the site.

Property Location: The proposed project Wildomar Crossroads, a proposed mixed-use project, is located at 24850-23980 Catt Road, Wildomar, California 92595. It lies within the southeast portion of the City of Wildomar, at the northwest intersection of Clinton Keith Road and Wildomar Trail. Regional access to the project site is provided by Interstate 15 (I-15) located approximately 0.15 miles southwest and Interstate 215 (I-215) located 3.8 miles east.

The property is geographically located within Section 36 of Township 6 South, Range 4 West of the *Murrieta, California 7.5 Minute Series U.S.G.S. Topographic Quadrangle*, as depicted in the attached *Exhibit 2 – USGS Topo. Exhibit 3 – Site Photos* illustrates the current condition of the site.

The site is identified by Assessor's Parcel Numbers 376-410-015, 376-410-016, 376-410-017, and 376-410-021.

Topography: Elevations on-site are variable, based on dirt storage and stockpiling that occurred in the past. Elevations range from approximately 1932 feet above mean sea level (msl) along the southeasterly corner of the site down, and 1339 feet above msl at the existing residence pad in the southwesterly corner. Elevations are highest at the top of the large stockpile (1336 feet msl). The north property line is variable but has a block wall constructed on it. Ground elevations along the wall are run approximately from 1335 to 1354 feet msl.

The U.S.G.S. map depicts a much simpler broad alluvial structure ranging from 1440 to 1460 feet msl across the property down to Catt Road along the south property line. All the fill on the site has buried much of the native soil, and resulted in a very different drainage pattern than originally existed. The blueline drainage, which once stretched northward uphill over half a mile has been beheaded and truncated so that it now is a very small relict on-site with fill placed at the upstream and downstream end of it.

Soils: The property was historically comprised of three (3) soil types, according to the NRCS *Web Soil Survey: Western Riverside Area, California*. It should be noted that areas on which fill has been placed are now over-covered with unconsolidated fill. Other areas on-site have been modified to support historic uses. In these disturbed and over-covered areas native soils are not present at the surface. The soils historically present on the property were as follows:

Table 1 - Soil Types, below, describes the soils on-site (as they were naturally arrayed), as well as the basic known characteristics of those soils.

Table 1 - Soil Types

Code	Soil Type/Description	Location
HcC	Hanford Series The Hanford series consists of well-drained and some-what excessively drained soils on alluvial fans. Slopes are 0 to 15 percent. These soils developed in alluvium made up of granitic materials. Elevations• range from·700 to 2,500 feet. The average annual rainfall ranges from 9 to 14 inches, the average annual temperature from 59° to 64° F., and the average frost-free season from 210 to 280 days. Vegetation is chiefly annual grasses, forbs, and chamise. Typically, the upper 18 inches of the profile is grayish-brown coarse sandy loam. Underlying this is brown, strat-ified coarse sandy loam and loamy sand. Hanford soils are near the Tujunga, Greenfield, and Ramona soils. The Hanford soils are used for dry land pasture and grain and for irrigated alfalfa, potatoes, citrus, grapes, and grain. They are also used for homesites. Hanford coarse sandy loam, 2 to 8 percent slopes (HcC). - This gently to moderately sloping soil occurs on alluvial fans. Following is a typical profile on a northeast-facing slope of 5 percent (275 feet east and 650 feet south of the north quarter-corner of section 30, T. 3 S., R. 3 W.): Ap-0 to 8 inches, grayish-brown (10YR 5/2) coarse sandy loam, very dark grayish brown (10YR 3/2) when moist; massive; slightly hard, very friable, non-sticky and nonplastic; abundant very fine roots; few, very fine, irregular pores; slightly acid (pH 6.2); gradual, smooth boundary. Horizon is 3 to 12 inches thick. Cl-8 to 18 inches, very similar to the Ap horizon, except slightly darker in color. Horizon is 6 to 23 inches thick. C2-18 to 40 inches, brown (10YR 5/3) coarse sandy loam, dark brown (10YR 8/3) when moist; massive; slightly hard, very friable, nonsticky and non-plastic; plentiful very fine roots; common, very fine, irregular pores and few, very fine, tubular pores; slightly acid (pH 6.5); clear, smooth boundary. Horizon is 4 to 28 inches thick. C3-40 to 60 inches, brown (10YR 5/3) loamy sand, dark brown (10YR 3/3) when moist; single grain; loose when dry or moist, nonsticky and non-plastic; few very fine roots; slightly acid (pH 6.5). This Hanford soil is used for irrigated alfalfa, potatoes, and citrus, for dryland grain and	This soil type follows the orientation of the former blueline drainage on-site. The coarse sand likely reflects the depositional nature of the former streamcourse, which has been dramatically altered by other projects. The soil would be highly porous and not prone to extended detention or ponding. Course sandy loams are not as structurally cohesive or more dense or clayey soils, therefore, mammal burrows were found in this area but would generally be expected to be less stable due to loose soil structure.

Code	Soil Type/Description	Location
	pasture, and for homesites. This Hanford soil is used for irrigated alfalfa, potatoes, and citrus, for dryland grain and pasture, and for homesites. (Capability unit IIe-1 (19) irrigated, IVec-1 (20) dryland; Sandy range site)	
MnD2	Monserate Series The Monserate series consists of well-drained soils that developed in alluvium from predominantly granitic materials. Slopes range from 0 to 25 percent·. These soils are on terraces and on old alluvial fans. Elevations range from 700 to 2,500 feet. The average annual rainfall ranges from 9 to 14 inches, the average annual temperature from 61 ° to 64° F., and the average frost-free season from 220 to 280 days. Vegetation is chiefly annual grasses, forbs, and chamise. In a typical profile, the surface layer is brown and yellowish-red sandy loam about 10 inches thick. The sub-soil is reddish-brown sandy clay loam. At a depth of about 28 inches is a dark-brown layer that is cemented with iron and silica. The cementation decreases with depth, and the material contains seams that are slightly effervescent. The Monserate soils are near the Tujunga, Hanford, Greenfield, and Ramona soils. Monserate soils are used for dryland grain and pasture, for irrigated citrus and truck crops, and for nonfarm purposes. Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded (MnD2) -The profile of this soil is similar to that described for the Monserate series, but it is 10 to 20 inches deep to the silica-cemented pan, has a reddish-brown surface layer, and a sandy clay subsoil. Included with this soil in mapping are small areas that have a gravelly sandy loam surface layer. Also included are small areas having slopes of less than 5 percent. The available water holding capacity of this soil is 2.0 to 3.0 inches. Runoff is rapid, and the hazard of erosion is high. Natural fertility is moderately low. This soil is used for dryland pasture and grain and for nonfarm purposes. (Capability unit Vle-8 (19) dryland; Shallow Loamy range site)	Found only in the northeast corner of the property, this soil may not persist on the site. Sandy loams are generally quite porous and easily excavated by ground-dwelling animals.
PID	Placentia Series The Placentia series consists of moderately well drained soils on alluvial fans and terraces. Slopes range from 0 to 25 percent. These soils developed in alluvium consisting mainly of granitic materials. Elevations range from 600 to 2,200 feet. The average annual rainfall ranges from 10 to 14 inches, the average annual temperature from 60° to 64° F., and the average frost-free season from 200 to 270 days. The vegetation is chiefly annual grasses, forbs, and chamise. In a typical profile, the surface layer is brown and pale-brown fine sandy loam and loam about 18 inches thick. The upper subsoil is brown heavy clay loam about 21 inches thick. The lower subsoil is brown sandy clay loam about 18 inches thick. The substratum is stratified sandy, gravelly, or cobbly alluvium of granitic origin. The Placentia soils are near the · Hanford, Greenfield, and Ramona soils. Placentia soils are used for dryland pasture and grain, for irrigated permanent pasture, and for nonfarm purposes. Placentia fine sandy loam, 5 to 15 percent slopes (PID) - A few small areas having slopes of 0 to 5 percent or of 15 to 25 percent are included in areas mapped as this soil. The available water holding capacity of this soil is 3.0 to 4.5 inches. Runoff is medium, and the hazard of erosion is moderate. Natural fertility is low.	This type of soil would be suitable for burrowing animals. It would be unlikely to pond or retard the percolation of water, based on the soils description provided by the USDA this soil is "moderately well-drained. Prior to numerous, historic disturbances on the site, this soil was present over most of site, including over two-thirds (approximately 75%-80%) of the property.

Code	Soil Type/Description	Location
	This soil is used for dryland grain and pasture and for nonfarm purposes. (Capability unit IVe-3 (19) irrigated; Claypan range site)	

Exhibit 4 – Soils, attached, depicts the soils types described above and their historical locations across the property. Though the date of the USDA aerial photo is not known to us; it certainly was at least 50 years ago and probably dated back to the 1940's. The soil suitability analysis would only be relevant for those areas which remain reasonably undisturbed, as stockpiling dirt and associated grading generally eliminates or overcovers native soil profiles. The remnant drainage course (designated Feature 1 herein) comprises only 0.058 acre and may be the only area where native soils remain at the surface.

Site Disturbance and Development History

Exhibit 5 – Historic Aerial 1938, depicts conditions on the property prior to development of the homesite and associated rural agricultural activities. The blueline drainage is fully intact, and drains into a large pond that would now be filled due to decades of heavy use of this area. Natural scrub appears to remain intact on the east side of the drainage, however, the west side of the drainage (most of the site) appears to have been dry farmed in 1938 (84 years ago).

There is one feature we were not able to conclusively identify in the upper northwest quadrant of the property, near the north property line based on just this photo. It appears to be either a pond of some sort or a tree. Trees probably occurred naturally on the lower flanks of the Sedco Hills. These alluvial fan structures (which is the geomorphic structure on which the Project site is located) often support local aquifers which can be depleted easily via extraction or drought. Additional historic analysis was necessary.

Exhibit 6 – Historic Aerial 1978 indicates that the blueline drainage has been substantially disturbed. Most, and perhaps all, of the scrub vegetation has been removed on the property (except the darkened bottom of the upper drainage). Only the upper one-third of the drainage can be recognized as still exhibiting a bed and bank, but the lower two-thirds has been filled or somehow physically obscured. It is likely the flowline of the feature remained active in 1978 (44 years ago), however there are intensive uses on the site in 1978 which look like poultry farming and other activities.

There are two features in the northwest quadrant of the property near the property line. One appears rectangular in shape and could be a trough or a structure, and the one just north of the mapped property line could be a small tree or a pond. Once again, additional historic analysis was necessary.

Exhibit 7 – Historic Aerial 1996 depicts intensification of the agricultural use of the property. Groves have been planted in the upper northeast corner of the property east of the drainage course, and another small grove is present at the southeast corner of the property west of the drainage course alignment. Although the drainage appears to be filled, stormflows could still have occurred and may have spread out into either grove from time to time in larger storm events. Remnant olive trees and one pecan tree remain on the property, suggesting these may have been the fruits which were being harvested in the late 20th Century. Clinton Keith Road has been constructed to the south of the site.

The feature at the north property line, previously discussed, now appears to be a small tree adjacent to a structure of some sort. That determination is likely, but not conclusive however.

Exhibit 8 – Historic Aerial 2002 is not clear enough to make out many details, but it appears that agricultural activities on-site were in decline. Some structures have been removed, and the non-native tree and shrub cover appears to be reduced as well suggesting that the irrigation of the site has ceased. The blueline drainage course alignment can still be detected in the north portion of the site, but it likely has been altered further based on the imagery of the photo.

The feature in the northwest quadrant of the site, near the north property line is larger, and now appears to be a tree.

Exhibit 9 – Historic Aerial 2006 shows clearly that the drainage course has largely re-established itself within its historic alignment. Use of the easterly half of the site has dwindled, but the west one-third of the site is still actively being used for animal husbandry based on the presence of barns, sheds, and multiple animal-holding pens. It is also possible that despite the former uses in the eastern half of the site, that either native or natural vegetation (i.e., scrub or non-native grasses and shrubs) are present in 2006. Tract No. 30155 had not yet been developed in 2006. The current Wildomar Trail alignment remained a dirt road in 2006.

The clarity of this aerial is helpful with regard to the "feature" in the northwest quadrant of the site, near the north property line. Clearly it is a tree next to a small rectangular structure.

Exhibit 10 – Historic Aerial 2009 clearly illustrates that development of the adjoining residential tract is underway. The photo also shows that the blueline drainage course has been beheaded and filled in a manner similar to its current condition. This photo demonstrates that the former stream is no longer functional in terms of 1) conveying stormflows from the north, 2) conveying stormflows from the site to the south in a concentrated manner (i.e., sheet-flow is the prevalent drainage pattern across almost the entire site), 3) Stormflow volumes have been essentially eliminated except for that derived from the northeast quadrant of the site (i.e., the watershed for the feature probably does not exceed one acre), 4) the former drainage no longer transports sediment to replenish downstream river and beach resources, 5) the native cover is no longer substantially present to support wildlife resources tied to intermittent stream functions, as well as other diminished or defunct functions explored in the 6.1.2 analysis contained later in this report.

Stockpiling appears to have been underway both in the southeast corner of the property, as well as in the north central area where the large stockpile is located. The basic outline of the stockpile looks similar to the current configuration. We cannot, however, discern if the stockpile had reached its current height by 2009. The Wildomar Trail alignment is partially constructed.

Exhibit 11 – Aerial Photo 2021 portrays the property as it currently exists; no changes have occurred over the last year. Wildomar Trail has been constructed to its full width, including a sidewalk along the east property line of the subject property. Some grading would have had to occur on the site in order to construct the sidewalk and full right-of-way (ROW) area because a 2:1 slope was constructed onto the subject site with fill

material in order to support these full width right-of-way improvements. Close examination of both Exhibit 10 and Exhibit 11 demonstrate that the terminus of the former blueline drainage was shortened due to the placement of additional fill material, a necessary outcome to achieve the full width ROW. This action further diminished the physical expression of the drainage, but functional values of the wash had already been eliminated or severely diminished prior to this fairly-recent action.

3.0 Reserve Assembly Analysis

3.1 Public Quasi-Public Lands

The property close to but outside of the southerly-most extent of Subunit 4 – Sedco Hills of the *Western Riverside Multi-Species Habitat Conservation Plan* (MSHCP) and requires evaluation for conservation under the Plan. *Exhibit 12 – RCA MSHCP Information Map Pubic Quasi-Public Conserved Lands* shows the subject property is approximately one-half mile west of Cell No. 5559 of the Sedco Hills Subunit. As such, there are no outright conservation requirements for the Project that would be required for Reserve Assembly, as the subject site is not within a Criteria Cell.

Nonetheless, certain MSHCP survey overlay zones are in place across the Plan Area that can require additional analysis and land avoidance or mitigation if certain resources as described in the MSHCP are present. These different parameters are discussed below for consideration by the City of Wildomar to consider.

3.1.1 Public Quasi-Public Lands in Reserve Assembly Analysis

Exhibit 12 – RCA MSHCP Information Map Pubic Quasi-Public Conserved Lands shows that the Project site is not in a Criteria Cell and is outside of Subunit 4 – Sedco Hills. As such, there are no provisions in which the Project could be required to conserve land that would contribute to Reserve Assembly.

3.1.2 Project Impacts to Public Quasi-Public Lands

There are no Public or Quasi-Public lands adjacent to or near the subject property as shown in Exhibit 12. However, the Project site is upstream of and within the Murrieta Creek watershed, and therefore the Project cannot degrade water quality or allow contaminants or invasive materials to be discharged from the site.

It should also be noted that there is a walled-in, small, linear basin area north of and directly adjacent to the Project site. The origin of this conserved area appears to be associated with the implementation of Tract 30155. The Homeowner Association (HOA) maintains the area (*perscom*, M. Bassi, 29 June 2022). There is a sign posted at the east gate of the facility which states "*This Area Is Restricted – Sensitive Habitat Area – Entry Prohibited – Your Assistance Is Needed To Protect The Biological Resources Found In This Area. Hartford Park Maintenance Association*". The site lies north of the Project site above the Project site's watershed, and is protected by a six (6) foot block wall. It is not shown in *Exhibit 12 - RCA MSHCP Information Map – Public Quasi Public Conserved Lands*. Despite the HOA signage, we are not aware of any specific resources being protected at this location, and the location does not appear in the *CNDDB* where sensitive organism detections

are reported and records of those detections made available to subscribers.

No impacts to Public Quasi-Public Lands would be expected to occur.

4.0 Vegetation Mapping

Literature Review: Baseline conditions for the property were initially evaluated through review of existing area biological information and pertinent scientific literature. Primary literature reviewed in determining vegetation community names, associations, and descriptions for the project area were derived from: *The Jepson Manual, Higher Plants of California*, Hickman,1993; California Natural Community List (2019); *A Manual of California Vegetation*, Sawyer and Keeler-Wolf, 2nd edition, 2009, *The Vascular Plants of Riverside County* (Boyd & Sanders, et al, 2004) and the California Native Plant Society's ("CNPS") *Inventory of Rare and Endangered Plants* were also utilized. A complete list of references has been provided as Appendix C.

Geographically, the property is located within the California Floristic Province Southwestern California region, specifically in the South Coast subregion. The South Coast subregion extends along the Pacific Coast from Point Conception to Mexico.

Despite disturbances on-site, there are natural vegetation alliances present on the property. Designations for these habitat elements and their respective California Natural Community Codes ("CaCodes") have been described in the following text. Vegetation is depicted in the attached *Exhibit 13 - Vegetation Alliances*, which includes acreage totals for each vegetation alliance identified.

Riparian Vegetation

There are no functional riparian communities on the site.

There are, nonetheless, several scattered elderberry shrubs (considered by some to be trees) but these elderberries are not within any stream channel or mapped floodplain. They appear to benefit from the shade of nearby pine trees, though that is a speculative conclusion. Elderberries may be artifacts of a time when portions of the site were irrigated for an orchard. Furthermore, according to the U.S. Army Corps of Engineers' *List of Plants Which Occur in Wetlands*, mulefat can be found in wet areas 50% of the time, and in upland areas 50% of the time (i.e., facultative species). In this case the elderberries do not comprise a riparian area on the site.

Mulefat thicket has also been mapped on the project site, but these small cells are located incoherently across the property. Several pods are found on or at the base of a recently-constructed 2:1 slope leading down from the Wildomar Trail ROW. Mulefat is a facultative species, meaning it can occur in uplands, as described below. Mulefat often does not occur in wetlands or riparian areas, and can be related to temporary irrigation, inhibited drainage via disturbance, and other anthropomorphic causes.

One elderberry bush is located in the eastern half of the property, where conditions are highly disturbed and very dry. Both the elderberry stand alliance and the mulefat thicket alliance are discussed in more detail below, as both cells occur in upland areas.

Upland Vegetation

Upland Mustards/Fiddleneck Fields (MUS/FID) (CaCode 42.011.05/42/011.03): This is the most common alliance mapped on-site. The total acreage is 7.94 acres. Mostly comprised of non-native grasses and weeds, there were also native herbaceous plants such as popcorn flower (*Amskinkia* sp.), vinegarweed (*Trichostema lanceolatum*), and stinknet (*Oncosiphon piluliferum*). This alliance comprised almost eight (8) acres on the property, and was considered generally suitable for BUOW.

California Buckwheat Scrub (CABU) (CaCode 32.040.02): CABU is scattered mostly in and around the former blueline drainage and in small cells along the east property line. This upland plant alliance can sometimes be present in BUOW habitat in low densities, but the vegetation cannot be dense because it would not allow BUOW to detect lurking predators. This alliance also contained a good deal of California-aster (*Corethrogyne filaginifolia*). CABU comprises 0.72 acre on-site.

Narrowleaf Goldenbush Scrub (GB) (CaCode 38.125.01): TERACOR mapped this alliance as a separate alliance, although it is represented in only 0.002 acre on-site. Formerly, before current mapping methods suggested by RCA Guidelines and the California Department of Fish and Wildlife, we would have grouped goldenbush with buckwheat and brittlebush into one mixed sage scrub community type. It can grow in dense patches and is not considered the type of habitat that BUOW can successfully utilize.

Coyote Brush Scrub (CBS) (CaCode 32.060.00): Coyote brush scrub is found in a number of small cells concentrated in areas where drainage is somewhat impeded and soils can retain moisture. As an upland plant that favors disturbed conditions, it generally will not grow in creeks and depressions and similar areas that are seasonally inundated, as it requires moist but not wet soil, therefore it is considered an upland plant community. The total area of coyote brush scrub on-site is 0.07 acre. One cell is found as the overstory vegetation above Feature 4, described in Section 5.0 Protection of Species – Riparian/Riverine/Vernal Pool Analysis

Mulefat Thickets (MT) (CaCode 63.510.00): Mulefat thicket comprises 0.05 acre of area on the property. It is mostly located in two locations on-site; 1) at the base of a human-constructed 2:1 along the Wildomar Trail right-of-way, and also at the base of another slope found on the west property line. Impeded drainage occurs at the block wall constructed behind homes along this westerly edge of the property, but there was no evidence of southward concentrated flow. We assumed therefore that unconsolidated fill substrates absorb the rain that falls on the slope, keeping the slope moist enough to support mulefat which is a facultative species known to occur in uplands approximately 50% of the time, and in wet areas 50% of the time.

Brittlebush Scrub (EN) (CaCode 33.030.01): Brittlebush scrub locally consists of *Encelia farinosa* and comprises only 0.013 acre on the Project site. It is common in the Wildomar area, and is always considered an upland plant community.

Blue Elderberry Stand (E) (CaCode 63.410.01): Usually elderberries grow on floodplains, or saddles between hilltops, or in ravines where soil moisture is slightly elevated but not saturated, such as on the margin of riparian woodlands and riparian scrub communities. It exists in a few small cells on-site, comprising just 0.012 acre.

Ornamental (O) (No corresponding CaCode): This area consisted of 0.58 acre. Species include pine trees (*Pinus* sp.), European olive (*Olea europaea*), domesticated pecan (*Carya illinoinensis*), and Peruvian pepper trees. These ornamental trees are found most densely around the residential structure, but are also scattered around the site.

Disturbed (D) (No corresponding CaCode): Though almost all the site exhibits some degree of disturbance, areas that cannot be considered habitat of any type include the residential structures, driveways, and dilapidated farm structures. This area comprised 0.73 acre.

Table 2 – Vegetation Alliances

Vegetation Alliances	CA – Code	Acres
GB - Narrowleaf Goldenbush Scrub	38.125.01	0.002
CABU - California Buckwheat Scrub	32.040.02	0.72
MUS / FID - Upland Mustards/Fiddleneck Field	42.011.05 / 42.110.03	7.94
CBS - Coyote Brush Scrub	32.060.00	0.07
MT - Mulefat Thickets	63.510.00	0.05
EN - Brittlebush Scrub	33.030.01	0.013
E - Blue Elderberry Stand	63.410.01	0.012
D - Disturbed	No CA-Code	0.73
O - Ornamental/Non-native Trees	No CA-Code	0.58
Total		10.12 Acres

5.0 Protection of Species - Riparian/Riverine/Vernal Pool Analysis (MSHCP Section 6.1.2)

Section 6.1.2 of the MSHCP describes the process through which protection of riparian/riverine areas and vernal pools (R/R/VP areas) would occur within the MSHCP Plan Area. Protection of riparian/riverine areas and vernal pools is important to conservation of the amphibian, bird, fish, invertebrate, and plant species which occur primarily or exclusively within these habitats. These species include: amphibians (for example arroyo toad); birds (such as least Bell's vireo), fish (e.g., Santa Ana sucker); invertebrates/crustaceans (e.g., Riverside fairy shrimp) and plants (including species such as California Orcutt grass, Orcutt's brodiaea, and spreading navarretia). The stated purpose contained in Section 6.1.2 states:

"*The purpose …is to ensure that the biological functions and values of these areas… are maintained*

such that Habitat values for species inside the MSHCP Conservation Area are maintained."

TERACOR first evaluated the site in the field on 16 March 2022. The last of several site evaluations occurred on 15 June 2022. A burrowing owl habitat and focused survey was conducted in this timeframe. Vegetation mapping for thorough consideration of alliances and disturbance history. All native and naturalized vegetation was recorded and organized into a compendium. Walkovers for identification of R/R/VP resources were conducted on each site visit, and potential R/R/VP resources were staked and flagged in the field and subsequently professionally surveyed for mapping purposes. The completion of all site investigations allowed consideration of the likelihood of occurrence of the riparian/riverine/vernal pool species which occur inside the MSHCP Conservation area. These species evaluations are presented below in *Table 2 - Riparian/Riverine and Vernal Pool Species*.

Table 3 - Riparian/Riverine and Vernal Pool Species (MSHCP Section 6.1.2)

Section 6.1.2 Species	Organismal Habitat Needs and Life History Parameters/Determination for the Project Site
Brand's star phacelia (*Phacelia stellaris*)	Not Present. Known only to occur along the Santa Ana River in Riverside County, this annual herb blooms from March through June. Elsewhere in CA it occurs in open areas within coastal dunes and coastal sage scrub below 400 meters. Habitat on-site is not suitable, and the subject property is outside of this species' known geographic range. Further, this species was not expected, due to habitat conditions, and it did not occur on-site.
California Orcutt grass (*Orcuttia californica*)	Not Present. This species is broadly distributed geographically, but confined to vernal pool complexes between fifteen (15) and 660 meters. It blooms from April through August. No vernal pools are present on-site. Habitat on the subject property, therefore, is unsuitable for this species, surveys are not required for the species in this area, and it was not detected on-site.
California black walnut (*Juglans californica*) Formerly *Juglans californica* var. *californica*	Not Present. This MSHCP-covered species occurs in western Riverside County. This deciduous tree occurs on slopes and in canyons between 50 and 900 meters along the south coast, south Transverse Ranges, and north Peninsular Ranges. It blooms from March through August. Walnut forest is a much fragmented, declining community. Individual trees themselves are not particularly relevant. Woodland stands would be considered sensitive and might warrant conservation or mitigation, not single trees. Walnut does not occur on the Project site.
Coulter's matilija poppy (*Romneya coulteri*)	Not Present. This MSHCP-covered species occurs in Riverside County. The matillja poppy is distinctive in that it has the largest flowers of any plant native to California. It typically blooms from March to July, and occasionally as late as August. It is often found in burned chaparral and coastal scrub in the Peninsular Ranges, Western Transverse Ranges, and the south coast area from 20 to 1200 meters in elevation. Surveys of the site revealed this species is not present.

Section 6.1.2 Species	Organismal Habitat Needs and Life History Parameters/Determination for the Project Site
Engelmann oak (*Quercus engelmannii*)	Not Present. This MSHCP-covered species occurs in western Riverside County; however, the subject property is not suitable for this tree species. This southern California oak occurs in chaparral, cismontane woodland, riparian woodland and valley and foothill grassland. Its elevation range is 50 to 1300 meters. This perennial deciduous tree flowers from March through June. It does not occur on-site.
Fish's milkwort (*Polygala cornuta* var. *fishiae*	Not Present. This perennial deciduous shrub blooms from May through August and occurs in chaparral, oak woodland and riparian woodland between 100 and 1000 meters in elevation. Vegetation surveys and mapping revealed this variety is not present on the subject property.
graceful tarplant (*Holocarpha virgata* ssp. *elongata*)	Not Present. This MSHCP-covered annual plant blooms from May through November and occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland between 60 and 1100 meters in elevation. It was not detected on-site.
lemon lily (*Lilium parryi*)	Not Present. This MSHCP-covered bulbiferous plant blooms from July through August and occurs in mesic areas within lower and upper montane coniferous forest, meadows and seeps, and riparian forest between 1220 and 2745 meters in elevation. The subject property is located outside of this species' known geographic and elevational range, and suitable habitat is not present on-site
Mojave tarplant (*Deinandra mohavensis*)	Not Present. This MSHCP-covered species is primarily a species found in the San Jacinto Mtns., however, it is also known to occur along washes at the eastern fringes of western Riverside Co. This annual herb blooms from May through January and occurs in mesic areas in chaparral, coastal scrub and riparian scrub between 640 and 1,600 meters in elevation. The subject property is outside this species' known geographic distribution, and this tarplant does not occur on-site.
mud nama (*Nama stenocarpa*) Formerly known as *Nama stenocarpum*	Not Present. This MSHCP-covered species is very scarce in Riverside County, known only from the north shore of Mystic Lake (Boyd et al). This herb blooms from January through July and occurs on marshes, swamps, lake margins and streambanks between 5 and 500 meters. Habitat on-site is not suitable and it has a restricted distribution that does not include the Lakeview Mountains. It does not occur on-site.
ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*)	Not Present. This perennial bulbiferous herb blooms from March through August and occurs often in shaded stream settings or in mesic openings within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest and riparian woodland between 30 and 1800 meters in elevation. Suitable habitat is not present on-site for this tall, conspicuous and easily-detected lily.

Section 6.1.2 Species	Organismal Habitat Needs and Life History Parameters/Determination for the Project Site
Orcutt's brodiaea (*Brodiaea orcuttii*)	Not Present. Boyd et all note that this MSHCP-covered species occurs in the southern Santa Ana Mtns. and on the Santa Rosa Plateau. This perennial bulbiferous herb blooms from May through July and occurs on mesic and clay soils in closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland and vernal pools between 30 and 1,692 meters in elevation. Suitable habitat is not present on-site, and the subject property is not located within the known geographic distribution of this species. Orcutt's brodiaea is not present on-site.
Parish's meadowfoam (*Limnanthes alba* ssp. *parishii*) Formerly known as *Limnanthes gracilis* var. *parishii*	Not Present. This annual herb blooms from April through June and occurs in vernally mesic areas and along edges of ephemeral streams in lower montane coniferous forest, meadows and seeps, and vernal pools between 600 and 2000 meters in elevation. Suitable habitat is not present on-site, and the subject property is outside this subspecies' known geographic distribution. This subspecies is not present on-site.
prostrate vernal pool navarretia (*Navarretia prostrata*)	Not Present. This MSHCP-covered species occurs in western Riverside County. This annual herb blooms from April through July and occurs in mesic areas in coastal scrub, meadows and seeps, alkaline valley and foothill grassland, and vernal pools between three (3) and 1210 meters in elevation. Suitable habitat is not present on-site. This species is not found on the subject property.
San Diego button-celery (*Eryngium aristulatum* var. *parishii*)	Not Present. This MSHCP-covered this herb blooms from April through June and occurs in mesic areas in coastal scrub, valley and foothill grassland, vernal pools and marshes between 20 and 620 meters in elevation. Suitable habitat is not present on-site and it is our understanding it only occurs in vernal pools on the Santa Rosa Plateau.
San Jacinto Valley crownscale (*Atriplex coronata* var. *notatior*)	Not Present. This annual herb occurs in alkaline playas, mesic valley, foothill grasslands and vernal pools from 139 to 500 meters in elevation and blooms April through August. Threats include flood control, agriculture, non-native plants, urbanization, vehicles, road maintenance, and pipeline construction. According to the MSHCP, this species is primarily restricted to the alkali floodplains of the San Jacinto River, Mystic Lake and Salt Creek in association with Willows, Domino and Traver soils. This variety is also known to occur north of Diamond Valley Lake and on Willows soils at Alberhill Creek near Lake Elsinore. Suitable habitat is not present on-site. It is not found on the property.
San Miguel savory (*Clinopodium chandleri*) Formerly known as *Satureja chandleri*	Not Present. This MSHCP-covered species is a perennial shrub that occurs in western Riverside County, in rocky, gabbroic or metavolcanic areas in chaparral, cismontane woodland. It blooms from March through July. Habitats on-site overlie granitic material lower in mafic minerals. Suitable habitat and parent material rock for this species is absent on the subject property.

Section 6.1.2 Species	Organismal Habitat Needs and Life History Parameters/Determination for the Project Site
Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*)	Not Present. This MSHCP-covered perennial herb occurs in sandy or gravelly washes, floodplains, and dry riverbeds in chaparral and alluvial fan sage scrub from 91 to 610 meters in elevation. It blooms from April through September. This subspecies primarily occurs along the Santa Ana River from San Bernardino to Riverside. Suitable habitat is not present on-site and it was not detected.
slender-horned spineflower (*Dodecahema leptoceras*)	Not Present. Occurs in Riverside County mostly on old alluvial benches along the San Jacinto River, Bautista Canyon, Temescal Valley, and lower Agua Tibia Mtns. Listed as federally endangered on 28 September 1987 and state endangered in January 1982, this annual herb requires flood deposited terraces and washes in chaparral/coastal scrub and cismontane woodland between 200 and 760 meters. It is also found at Vail Lake on sandstone. It blooms from April through June. This species was not expected due to lack of support habitat and did not occur on-site.
smooth tarplant (*Centromadia pungens* ssp. *laevis*)	Not Present. This MSHCP-covered species occurs in Riverside County and blooms from April through September and occurs below 640 meters in elevation. Smooth tarplant occurs in open, poorly drained flats, depressions, waterway banks and beds, grassland and disturbed sites. CNPS states that this subspecies occurs in alkaline areas in chenopod scrub, meadows and seeps, playas, riparian woodland and grassland. High porosity of sandy loam soils on-site suggest the site is not suitable, although there is a fairly recent detection of smooth tarplant on both sides of Clinton Keith Road at Murrieta Creek not far from the site.
spreading navarretia (*Navarretia fossalis*)	Not Present. This MSHCP-covered species occurs in southwest Riverside County. This annual blooms from April through June and occurs in vernal pools, ditches, chenopod scrub, marshes and swamps with assorted shallow freshwater, and playas. Habitat on-site is not suitable for this species, and it was not detected on-site. These is a 2004 detection for this species to the east of the Project site approximately 1.75 miles away, but the CNDDB notes it is considered extirpated.
thread-leaved brodiaea (*Brodiaea filifolia*)	Not Present. This MSHCP-covered species occurs in western Riverside County. It is a bulbiferous perennial herb that blooms from March through June and is known to occur in chaparral openings, cismontane woodland, coastal scrub, playas, valley and foothill grasslands, and most often in vernal pool complexes and clay soils. It can be locally common in vernal pools complexes on the Santa Rosa Plateau and on alkali flats along the San Jacinto River. Suitable habitat is not present. This species was not detected and does not occur on-site.
Vernal barley (*Hordeum intercedens*) Now known as bobtail barley	Not Present. This MSHCP-covered species occurs in vernal pools, alkali flats and ephemeral saline streams within coastal dunes, coastal scrub and grasslands below 1000 meters throughout southwestern California. An annual herb, it blooms from March through June. Suitable habitat is not present on-site, and this species was not detected on the subject property.

Section 6.1.2 Species	Organismal Habitat Needs and Life History Parameters/Determination for the Project Site
Riverside fairy shrimp (*Streptocephalus woottoni*)	Not Present. The property was determined to be unsuitable for this species due to the lack of ponds, natural vernal pools, clayey surface soils, and similar features. This species of fairy shrimp is endemic to western Riverside, Orange, and San Diego Counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. It inhabits seasonally astatic pools filled by Winter/Spring rains, and hatches in warm water later in the season. Suitable habitat is not present as vernal pools were not found on the site. There is a 2009 detection of this organism southeast of the Project site approximately 1 mile away, just east of Interstate 15. There is an e detection from 2010 approximately 2 miles east of the site, which the CNDDB indicates is extirpated. This species has occurred historically in the area and may persist.
vernal pool fairy shrimp (*Branchinecta lynchi*)	Not Present. TERACOR's on-site and off-site analysis found no evidence of vernal pools and thus the site was determined to be unsuitable for this species. Potential habitat includes short lived, cool temperature vernal pools. Vernal pools were not detected on-site; therefore, suitable habitat for this fairy shrimp is not believed present on the subject property.
arroyo toad (*Anaxyrus californicus*) Formerly known as (*Bufo californicus*)	Not Present. This species has no potential to occur on-site. The arroyo toad breeds in sandy river washes and inundated arroyos; hence the name arroyo toad. This species has a very specialized breeding habitat in that it requires shallow, slow moving water or overflow pools within a stream system comprised of silt-free sandy or gravelly substrates. This species also requires streamside terraces for burrowing. Suitable breeding habitat is not present on the subject property. Distance from the nearest natural suitably waterbody precludes its non-breeding presence outside of the breeding season as well.
California red-legged frog (*Rana draytonii*) Formerly known as *Rana aurora draytonii*	Not Present. Populations of this frog are in serious decline primarily due to the introduction of non-native predators such as the American bullfrog (*Lithobates catesbeianus*), habitat loss, on-going drought and pollutants. This species prefers pond habitats for breeding; however, it will also utilize slow, permanent streams. Necessary habitat is not present on-site.
southern mountain yellow-legged frog (*Rana muscosa*) Formerly known as the mountain yellow-legged frog	Not Present. This species has no potential to occur on-site. This frog species, once abundant, has lost approximately 99% of its former range. Chytrid fungus, introduction of bullfrogs and trout species, pollution, fires, drought and cattle grazing are just a few of the suspected causes of this, likely fatal, decline of the species. Suitable habitat is not present. This species is not present on-site.

Section 6.1.2 Species	Organismal Habitat Needs and Life History Parameters/Determination for the Project Site
Santa Ana sucker (*Catostomus santaanae*)	Not Present. The property contains no aquatic habitat and was determined to be unsuitable for this species. This species is not present on the subject property.
bald eagle (*Haliaeetus leucocephalus*)	Not Present. Bald eagles typically nest in forested areas adjacent to large bodies of water and avoid heavily developed areas when possible. This species tolerates human activity when feeding, and may congregate around fish processing plants, dumps, and below dams where fish concentrate. Bald eagles prefer tall, mature coniferous or deciduous trees for perching, and can be seen in open, dry uplands if there is access to open water for fishing in winter. Bald eagles are becoming increasingly widespread again following cessation of the pesticide DDT, recovery efforts and public education. They forage throughout the MSHCP Plan area now with increasing frequency. The nearest substantial bodies of water are Mystic Lake, the San Jacinto Wildlife Refuge, Lake Mathews and Lake Perris. Suitable foraging and nesting habitat is generally not present on-site. This eagle would not occur on-site except perhaps to opportunistically consume conspicuous carrion in accessible areas like on Juniper Flats Road.
least Bell's vireo (*Vireo bellii pusillus*)	Not Present. This riparian-obligate subspecies generally requires lesser-disturbed areas of dense willow-associated riparian habitat and prefers areas with standing water. The habitat on-site does not support standing water even seasonally or riparian woodland vegetation. This subspecies does not occur on-site.
Peregrine falcon (*Falco peregrinus anatum*) Formerly known as the peregrine falcon (*Falco peregrinus*)	Not Present. This MSHCP-covered species can occur in western Riverside County. This subspecies occurs along the coast year-round, breeding from Santa Barbara to northern California. This subspecies also breeds in the Sierra Nevada and the Salton Sea. The wintering range for this subspecies extends into the Central Valley and more inland in southern California. Most commonly occupied habitats contain cliffs for nesting, with open gulfs of air and generally open landscapes for foraging. In addition to natural habitats, many artificial habitats are now used by this subspecies (urban, human-built environments such as towers, buildings, etc.). Suitable nesting habitat is not present, and we did not observe this species foraging on or near the subject property.
southwestern willow flycatcher (*Empidonax traillii extimus)*	Not Present. The property was determined to be unsuitable for this species based on the absence of willow scrub on-site and because there is no seasonal standing water. The subspecies southwestern willow flycatcher occupies the southernmost breeding range of the willow flycatcher. Habitat loss and parasitism from brown-headed cowbirds have reduced the populations to the threshold of extinction in many ways. This species would not utilize the site.
western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	Not Present. The property is not suitable for this species. The western yellow-billed cuckoo prefers dense riverine woodlands. This subspecies is common in parts of its range, but has experienced serious declines due to habitat loss and fragmentation. This subspecies is not present on-site.

5.1 Riparian/Riverine

5.1.1 Methods

If there are stream resources (ephemeral, intermittent or perennial) which appear present, or areas exhibiting ponding or similar detention of water (seasonal or permanent "waters") on the site, then jurisdictional criteria are applied in conformance with current professional delineation standards for both agencies. These areas would be mapped, measured, delineated, and evaluated with respect to vegetative composition and presence of hydric soils, using the resources and methodologies mandated by the respective agencies.

In the case of the subject site, the entire property was investigated and potentially-jurisdictional areas were identified and mapped as Features 1, 2, 3 and 4. Only Feature 4 had retains stormwater. Based on both on-site field investigation and off-site analyses, it is does not appear necessary to prepare a Preliminary Jurisdictional Delineation (PJD) report for either the U.S. Army Corps of Engineers ("Corps") or the California Department of Fish and Wildlife (CDFW) because it appears that the site does not contain these jurisdictional resources. The areas TERACOR mapped as "potential" Riparian, Riverine or Vernal Pool resources were considered using MSHCP criteria for this analysis, as well as identifying field evidence for presence of surface "waters". We evaluated whether "waters" (state or federal) were present, and if so, whether those "waters" were ephemeral, intermittent or permanent (perennial). The four (4) potential features were identified and mapped using GPS/GIS cartographic methods by skilled delineation and survey personnel; only one (Feature 4) was a depression with no hydrologic outflow. Therefore, TERACOR evaluated whether Feature 4 was a vernal pool or likely to support vernal pool resources and aquatic life.

The MSHCP defines a riparian/riverine area as: *"...lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year..."* (MSHCP 6-21).

The MSHCP requires assessment of Riparian/Riverine resources, including but not limited to consideration of hydrology, species composition and utilization, topography, and soil analysis.

These areas, even when they are not located in targeted conservation lands, can sometimes require on-site preservation of Riparian/Riverine areas or additional off-site mitigation as negotiated. Vernal Pool assessment methodology, investigations and findings are discussed below in Section 5.2 Vernal Pools.

Functions and Values: The MSHCP requires assessment of riparian/riverine areas and vernal pools including consideration of species composition, topography/hydrology, and soil analysis, where appropriate. Section 6.1.2 states:

"Factors to be considered include hydrologic regime, flood storage and flood flow modification, nutrient retention and transformation, sediment trapping and transport, toxicant trapping, public use, wildlife Habitat, and aquatic Habitat. The functions and values assessment will focus on those areas that

should be considered for priority acquisition for the MSHCP Conservation Area, as well as those functions that may affect downstream values related to Conservation of Covered Species within the MSHCP Conservation Area" (MSHCP 6-22).

Artificial (Human-Created) Areas: Section 6.1.2 language clarifies that "…*areas demonstrating characteristics as described above which are artificially created are not included in these definitions*." Exceptions to this are as follows: "*…wetlands created for the purpose of providing wetlands Habitat or resulting from human actions to create open waters or from the alteration of natural stream courses…*"

Human-affected Areas: Through both on-site field analysis and utilizing off-site information (i.e., soils, historic aerial photos, and vegetation mapping-derived data) TERACOR identified the presence of one former blueline drainage relict, which we also mapped and evaluated (Feature 1). Additionally, TERACOR also identified three human-created areas in the mapping process (i.e., Features 2, 3 and 4).

Human-affected stream course areas, even when they are not located in targeted conservation lands, can also sometimes require on-site preservation of R/R/VP areas or specific off-site mitigation for impacts both temporal and permanent to those human-affected stream course areas. Several factors were included in our evaluation, including whether the isolation of the drainage (via beheading and truncation) and agricultural modifications in prior decades had likely been lawfully conducted or permitted by local agencies and state and federal authorities. Additionally, the remnant functional values Feature 1 maintains was taken into consideration.

MSHCP-Defined Riparian/Riverine and Vernal Pool Protected Habitat: MSHCP Section 6.1.2 describes the process by which protection of riparian/riverine areas and vernal pools occurs within the MSHCP Plan Area. Protection of riparian/riverine areas and vernal pools is important to conservation of specified amphibian, bird, fish, invertebrate, and plant species which occur within these habitats. These species include:

- Amphibians: arroyo toad, mountain yellow-legged frog, and California red-legged frog;
- Birds: bald eagle, peregrine falcon, least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo;
- Fish: Santa Ana sucker;
- Invertebrates - Crustaceans: Riverside fairy shrimp and vernal pool fairy shrimp;
- Plants: Brand's phacelia, California Orcutt grass, California black walnut, Coulter's matilija poppy, Engelmann oak, Fish's milkwort, graceful tarplant, lemon lily, Mojave tarplant, mud nama, ocellated Humboldt lily, Orcutt's brodiaea, Parish's meadowfoam, prostrate navarretia, San Diego button-celery, San Jacinto Valley crownscale, San Miguel savory, Santa Ana River woolly-star, slender-horned spine flower, smooth tarplant, spreading navarretia, thread-leaved brodiaea, and vernal barley.

Of the 23 plant species listed above, none were detected or expected to occur. None of the eleven (11) animal species listed above was detected or believed present on the Project site due to site conditions. The *CNDDB* did note several historic and extirpated occurrences of several organisms in proximity to the Project site, such as smooth tarplant, spreading navarretia, and Riverside fairy shrimp within two (2)

miles of the site. These stream and pool-associated organisms are discussed in *Table 2 - Riparian/Riverine and Vernal Pool Species (MSHCP Section 6.1.2)*, previously presented.

5.1.2 Existing Conditions and Results

Existing conditions were evaluated in the field and remotely as previously described. The MSHCP protected species listed above in *Table 2*, above, were found unlikely to occur or absent, based on the methodologies recommended in the MSHCP, by the RCA, and in accordance with standard professional practice for consulting biologists in southern California.

Regarding Riparian/Riverine resources, TERACOR also utilized the MSHCP functional assessment parameters to guide the evaluation of the four (4) potential Riparian/Riverine/Vernal Pool areas on-site.

MSHCP Section 6.1.2 indicates that eight (8) functions and values (all listed below) should be described "… *with respect to the species listed above*…" (i.e., the Section 6.1.2 animals and plants). While all eight (8) functions and values need not be present to be considered Riparian or Riverine, it is the opinion of the Consulting Biologist that a prevalence of these functions should be present to legitimately assert the applicability of Section 6.1.2 to most drainage features.

Using the eight (8) criteria (functions and values) that are specifically described in Section 6.1.2, we applied those criteria to the four (4) Features on-site that could be either observed or reasonably inferred:

- *Hydrologic Regime*: Determined Present in All 4 Features, albeit in very small volumes and frequency. Evidence of water collection was detected in all the features, and all the 4 features were found to be "ephemeral". Field evidence and review of hydrological mapping provided by the Project Engineer, indicated that Feature 1, the former blueline drainage, receives no tributary runoff from upstream areas as it did historically. It does receive runoff from an approximate one-acre watershed surrounding it. The balance of the drainage across the 10.12 acre site (approximately 9 acres) is either absorbed into site substrates or sheet-flows to the south property line. Features 2 and 3 are human-constructed inlet structures which receive sheet-flow runoff in a 2-year event. Human-constructed facilities in historically upland areas are not riverine by definition. Feature 4 is a human-induced pit (11 ft. x 12 ft.) formed during placement of the large stockpile located in the northeast quadrant of the site. The temporary haul route apparently created a circular area which ponds in the middle and supports a dense but very small cell of coyote brush. The watershed for the pit was not recognized in the hydrology mapping because it is less than 400 square feet in extent. The topographic mapping indicates Feature 4 is a pit with no outlet.

- *Flood storage and Flood Flow Modification*: Determined Present (but insignificant) in Features 1 and 4 and Absent in Features 2 and 3. Much of the water entering or falling onto the site is absorbed into highly sandy substrate thereby naturally reducing downstream runoff. Two-year storm events, however, produce enough water volume to flow out of Feature 1 and transition

into sheetflow, and into the two concrete inlet basins on-site. Feature 4 however, is artificial within an earthen stockpile and its small size renders it insignificant with respect to flood storage. Because of the insignificant watershed size that "stores" floodwater, this function is not applicable.

- *Nutrient Retention and Transformation*: Determined Possibly Present in Feature 1 and Absent in Features 2, 3 and 4. While Nutrient Retention is hypothetically possible in Feature 1, the size of the Feature 1 watershed is approximately one acre, and therefore insignificant especially in light of the irregular and generally light rainfall in this area. Features 2 and 3 were constructed to convey water, not detain it. Feature 4 is 130 sq. ft. in size and therefore does not contribute in a measurably significant manner to nutrient retention or transformation.

- *Sediment Trapping and Transport*: Sediment Trapping is Present in Features 1 and 4 and Absent in Features 2 and 3. Sediment transport is Present in Features 1, 2 and 3 and Absent in Feature 4.

- *Toxicant Trapping*: Presumed Absent in all 4 Features due to the undeveloped condition of the watershed, the small size of the features, and presumed absence of urban toxic substances.

- *Public Use*: Determined Absent. There is no authorized public use of the site.

- *Wildlife Habitat*: Determined Absent for MSHCP species, except for common species like ground squirrel, Pacific rattlesnake and coyote. Not suitable habitat for any MSHCP Section 6.1.2 organisms or Table 9-3 organisms. Therefore, wildlife habitat for MSHCP species is not present in Features 1 - 4.

- *Aquatic Habitat*: Determined Absent as presence of water is only ephemeral in all 4 Features, and would not be expected to support aquatic life due to the very small size of the watershed for each feature, and the porous nature of the substrates as documented in the soils analysis, previously presented.

Summary of Functions and Values: Feature 1 exhibits 3 of the 8 possible functions and values, but it does not contribute in a significant way to warrant protection as a Riverine resource by virtue of prior agency decisions made to allow beheading and truncation of Feature 1 off-site. Much of Feature 1 was legitimately filled on-site to accommodate agricultural activities by the late 1970's. Features 2 and 3 collect and convey stormwater runoff, but are human-constructed in uplands and therefore not Riverine by definition. Feature 4 is a human-constructed pit in unconsolidated fill placed on the site during the grading of Tract No. 30155, so it is comprised of unconsolidated fill material and contains dense coyote brush making presence of fairy shrimp highly unlikely. There is no evidence to suggest it is a natural vernal pool perched well above the native substrates in fill material.

Conclusion Regarding Functions and Values: None of the 4 Feature meet a preponderance of the 8 functions and values criteria. The criteria they do meet is insignificant and miniscule. Therefore,

TERACOR's conclusion is that no features on-site are Riparian or Riverine.

Table 4 – Potential Riparian/Riverine/Vernal Pool Resources

Potential Features	Potential Acreage	Determined R/R/VP	Affected Acreage	Total Affected Acreage R/R/VP
Feature 1	0.058	No	0.0	0.0
Feature 2	0.007	No	0.0	0.0
Feature 3	0.004	No	0.0	0.0
Feature 4	0.003	No	0.0	0.0
Total	0.072	None	0.0	0.0

5.1.3 Impacts

TERACOR asserts there are no Riverine or Riparian areas on-site, therefore, no impacts to Riparian or Riverine resources are expected to occur.

5.1.4 Mitigation

There are no Riverine or Riparian areas on-site, therefore, no impacts to Riparian or Riverine resources are expected to occur, and specific mitigation for R/R resources is not required.

5.2 Vernal Pools

5.2.1 Methods

The MSHCP describes a vernal pool as *"... seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing season, while upland species (annuals) may be dominant during the drier portion of the growing season. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records* (MSHCP 6-22).

The methodology for detecting vernal pools consists of both on-site and off-site analysis. We begin by compiling information and data about the history of site use and development via historic aerial photography, analysis of underlying soils information obtained from the USDA, analysis of topographic conditions on-site and off-site in the contributing watershed, and review of any site-specific hydrological information and mapping if available. We sometimes interview the site owner or long-time nearby residents if they are available to do so, as residents are often curious about our on-site investigations. They have questions for field staff which is a good opportunity to gather anecdotal historical information about a site.

If a state or federal preliminary jurisdictional delineation is being performed or has been performed, then criteria would be applied both in the field and in the preparation of the assessment off-site which would consider all the parameters listed by both the U.S. Army Corps of Engineers and the California Department of Fish and Wildlife (CDFW) to establish jurisdictional status. This information, particularly hydrological information, soils sampling, and compiling vegetative profiles in potential jurisdictional areas, would be very helpful. If any site is only upland in composition, then that information would not exist, and jurisdictional areas would be considered absent. In that event, TERACOR utilizes other information to establish vernal pool presence or absence. We purposely do not conduct soil sampling in areas under evaluation which might support endangered or threatened fairy shrimp species as a matter of avoiding any possibility of alleged "take" of a species. In that case we utilize information gathered from the surface such as evidence of ponding, surface soil color, presence of surface water, water-stained debris, and other non-invasive techniques for establishing the presence of a wetland, in conformance with Army Corps guidance and practice.

5.2.2 Existing Conditions and Result

TERACOR field personnel utilized the methodology discussed above, and explored the property thoroughly to determine if vernal pools were present based on the methodology described above and the MSHCP-Section 6.1.2 defined criteria. We conducted a review of aerial photography, both recent and historic dating back to 1938, and subsequently performed comprehensive evaluation of the property to assess if any features on-site met the criteria established in MSHCP Section 6.1.2 to be considered as a vernal pool.

There are no natural vernal pools on the property. The sandy loam soils and gradients on-site are not conducive to ponding.

There is, however, one small area on the property that any location on the site which contained mudcracks and we assumed would pond during significant rainfall events. We identified the feature as Feature 4, which is 130 sq. ft. in extent (11 ft. x 12 ft. in extent). The mudcracks at the bottom of the "pit" were overstoried with dense coyote brush and dead vegetation, indicative of the recent drought. As analyzed in Section 5.1.2 above, however, Feature 4 is a human created pit which sits atop a large stockpile of dirt presumably derived from grading operations on an adjoining residential development, and perhaps elsewhere as well (the source of the material is not known with certainty to TERACOR). The material in the pit, however, was examined in the field and found to be very sandy and with loam type content to it, along with other debris. Access was somewhat difficult due to the steepness of the pit and the density of the coyote brush, but the aside from mudcracks, other important characteristics were absent, such as detectable wetland vegetation (alive or remains from earlier seasons), rings of different coloration around the mudcracks, or a viable watershed (which was judged in the field to be more than 300-400 square feet). Aerial photography (recent and historic) failed to produce any information suggestive of a vernal pool at or near this location. The position of Feature 4, atop a stockpile, also lowered the likelihood that the pit could be considered functional in terms of vernal pool characteristics. We noted it was highly unlikely to be considered jurisdictional by any local, state or federal agency.

Nonetheless, TERACOR mapped Feature 4 and a "potential" R/R/VP resource and evaluated it in the context of this report.

5.2.3 Impacts

Based on the information gathered by TERACOR remotely and in the field, it appears to us that no impacts to vernal pools will occur on the proposed Project site.

5.2.4 Mitigation

Based on the absence of natural vernal pools, the overstory of dense coyote brush (an upland shrub). and the poor likelihood of extended ponding long enough to support MSHCP-listed fairy shrimp species, we concluded that vernal pool mitigation was not necessary to recommend.

5.3 Fairy Shrimp

Based on the information analyzed and reported above, it is asserted by TERACOR that fairy shrimp species listed in the MSHCP do not occur on the site.

5.3.1 Impacts

TERACOR asserts there is no functional support habitat on-site for fairy shrimp species, therefore, no impacts are expected to occur.

5.3.4 Mitigation

TERACOR asserts there is no functional support habitat on-site for fairy shrimp species, therefore, no impacts are expected to occur, and no specific fairly shrimp mitigation is necessary.

TERACOR recommends, however, that a pre-disturbance walkover by a Permitted Fairy Shrimp Biologist be conducted to confirm or disprove TERACOR's determination.

5.4 Riparian Birds

There is no riparian vegetation present on-site capable of supporting any riparian bird species, therefore, further analysis is not required.

No impacts to Least Bell's vireo, southwestern willow flycatcher and yellow-billed cuckoo will occur on the proposed Project site with Project implementation.

5.5 Other Section 6.1.2 Species

No "other species" are expected to occur on the Project site.

6.0 Protection of Narrow Endemic Plant Species (MSHCP Section 6.1.3)

The proposed Project site does not lie within a Narrow Endemic Plant Survey Area or Criteria Area Plant Species survey area. As such, no surveys were required. While conducting vegetation and burrowing owl surveys, all plants encountered on-site were identified and no narrow endemic or criteria area plants were detected in Spring and Summer surveys from 16 March through 15 June 2022.

No narrow endemics were identified on the project site during vegetation surveys. No impacts to narrow endemic plant species will occur as a result of Project implementation.

Nonetheless, TERACOR queried the California Natural Diversity Database (CNDDB) and has included *Exhibit 16 – CNDDB Occurrences* for reference.

No mitigation for narrow endemic plant species is required as no impacts will occur to these plant species.

7.0 Additional Survey Needs and Procedures (MSHCP Section 6.3.2)

The proposed project is not located within a Section 6.3.2 survey area.

Criteria Area and Narrow Endemic Plant Species: The Proposed project does not fall within a mapped survey area for Criteria Area or Narrow Endemic plant species. Vegetation surveys did not incidentally detect any of these species. No impacts would occur, and no mitigation is necessary.

Amphibians: The Proposed project site does not fall within a mapped survey area for amphibian species. Site resources do not appear adequate for providing habitat for MSHCP-listed amphibian species. No impacts would occur, and no mitigation is necessary.

Mammals: The proposed project does not fall within a mapped survey area for mammal species. The project site is within the Stephen's Kangaroo rat fee area.

Burrowing Owl (BUOW): TERACOR conducted a burrowing owl habitat assessment and focused survey. The Habitat Assessment and Field Survey Methodology is described in detail in the BUOW Report. As described in the report, we followed the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (EPD 2006

Burrowing Owl (BUOW): The subject property was required to conduct a burrowing owl habitat assessment. TERACOR performed the habitat assessment and concluded that portions of the property had some possibility of supporting BUOW, therefore focused surveys were undertaken in 2022. The Habitat Assessment and Field Survey Methodology is described in detail in the BUOW Report. The report is entitled *Step I Habitat Assessment, Step II, Part a Focused Burrow Survey and Part B Focused Burrowing Owl Surveys*

for a 10.12-Acre Property Located in the City Of Wildomar, Riverside County, California, dated 20 June 2022, and is a companion report to this Consistency Analysis. No burrowing owls were detected on the property. As described in the report, we followed the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (EPD 2006). No burrowing owls were detected on the property. No impacts are expected to occur.

A 30-day pre-construction survey for burrowing owls is required prior to initial ground-disturbing activities (including but not limited to vegetation clearing, clearing and grubbing, tree removal, site watering) to ensure that no owls have colonized the site in the days or weeks preceding the ground-disturbing activities. If burrowing owls have colonized the project site prior to the initiation of ground-disturbing activities, the project proponent will immediately inform the Regional Conservation Authority (RCA) and the Wildlife Agencies, and will need to coordinate further with RCA and the Wildlife Agencies, including the possibility of preparing a Burrowing Owl Protection and Relocation Plan, prior to initiating ground disturbance. If ground-disturbing activities occur but the site is left undisturbed for more than 30 days, a preconstruction survey will again be necessary to ensure burrowing owl has not colonized the site since it was last disturbed. If burrow owl is found, the same coordination described above will be necessary.

8.0 Information on Other Species (MSHCP Table 9 - 3 Species)

8.1 Delhi Sands Flower-loving Fly (DSF)

The subject property is a great distance from areas mapped as potentially-suitable for DSF. These DSF occupied lands are generally north of the Santa Ana River. The organism is endemic the Delhi sands and similar aeolian sand-deposited substrates. A site-specific habitat assessment and surveys, of course, were not necessary.

8.1.1 Methods

The proposed project does not fall within an area with Delhi soils mapped within the MSHCP baseline data.

8.1.2 Existing Conditions and Results

The proposed project does not fall within an area with Delhi soils mapped within the MSHCP baseline data.

8.1.3 Impacts

The proposed project does not fall within an area with Delhi soils mapped within the MSHCP baseline data.

8.1.4 Mitigation

The proposed project does not fall within an area with Delhi soils mapped within the MSHCP baseline data, therefore, no mitigation is required.

8.2 Species Not Adequately Covered

No Species considered "Not Adequately Conserved" were found on the proposed Project site.

Table 5 - Covered Species Not Adequately Conserved (MSHCP Table 9 – 3)

Species	Conservation Requirement Status	Suitability of Subject Property for Organism - Life History and/or Habitat Description
Plants		
beautiful hulsea (*Hulsea vestita* ssp. *callicarpha*)	Met	Not Present. This MSHCP-covered species is a perennial herb which blooms from May through October and occurs on open gravel, talus slopes, rocky and granitic areas in montane chaparral and coniferous forest between 915 and 3050 meters in elevation. Suitable habitat is not present on-site, and the subject property is outside this subspecies' known geographic and elevational range.
California bedstraw (*Galium californicum* ssp. *primum*) Now known as Alvin Meadow bedstraw	No	Not Present. This subspecies is found on granitic or sandy substrates in chaparral and lower montane coniferous forests. Its blooming period is May through July and elevation range is 1350 to 1700 meters above sea level. Suitable habitat is not present, and the subject property is below the subspecies' known elevational range.
California muhly (*Muhlenbergia californica*)	No	Not Present. This now uncommon perennial rhizomatous herb blooms from June through September and occurs in seeps and streambanks in chaparral, forests, scrub and meadows throughout the western Transverse Ranges and south coast regions. Its elevation range is between 100 and 2000 meters. Habitat on-site is considered unsuitable for this species to occur on the subject property as seeps and moist streambanks are absent.
chickweed oxytheca (*Sidotheca caryophylloides*) Formerly known as *Oxytheca caryophylloides*	No	Not Present. This annual herb occurs on sandy substrates in lower montane coniferous forest. It blooms from July to October and its elevation range is 1114 to 2600 meters. The subject property is outside of this species' known elevational and geographic ranges, and suitable habitat is not present on-site. It occasionally can be found in the San Jacinto River wash.

Species	Conservation Requirement Status	Suitability of Subject Property for Organism - Life History and/or Habitat Description
Cleveland's bush monkeyflower (*Diplacus clevelandii*) Formerly known as *Mimulus clevelandii*	No	Not Present. This MSHCP-covered plant occurs in upper elevation chaparral in the Santa Ana and Agua Tibia Mtns. As a perennial rhizomatous herb, it blooms from April through July and occurs in gabbroic, often in disturbed areas, openings and rocky areas in chaparral, cismontane woodland and lower montane coniferous forest between 450 and 2000 meters in elevation. Gabbroic parent material is absent, and the subject property is outside this species' known geographic range.
cliff cinquefoil (*Potentilla rimicola*)	No	Not Present. This perennial herb occurs in granitic and rocky crevices in subalpine coniferous forest and upper montane coniferous forest between 2400 and 2800 meters in elevation. This species blooms from July through September. According to the CNPS, cliff cinquefoil is known only to occur in the San Jacinto Mountains. Suitable habitat is not present on-site, and the subject property is outside of this species' known geographic and elevational ranges.
Coulter's matilija poppy (*Romneya coulteri*) This species is also a 6.1.2 species.	Met	Not Present. This MSHCP-covered species occurs in Riverside County. The matillja poppy is distinctive in that it has the largest flowers of any plant native to California. It typically blooms from March to July, and occasionally as late as August. It is often found in burned chaparral and coastal scrub in the Peninsular Ranges, Western Transverse Ranges, and the south coast area from 20 to 1200 meters in elevation. It was not detected on-site during vegetation identification and mapping surveys, and does not occur on-site.
Fish's milkwort (*Polygala cornuta* var. *fishiae* This species is also a 6.1.2 species.	Met	Not Present. This perennial deciduous shrub blooms from May through August and occurs in chaparral, oak woodland and riparian woodland between 100 and 1000 meters in elevation. This perennial shrub was not detected on the Project site during vegetation identification and mapping surveys.
graceful tarplant (*Holocarpha virgata* ssp. *elongata*) This species is also a 6.1.2 species.	Met	Not Present. This MSHCP-covered annual plant blooms from May through November and occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland between 60 and 1100 meters in elevation. It was not detected on-site.
lemon lily (*Lilium parryi*) This species is also a 6.1.2 species.	No	Not Present. This MSHCP-covered bulbiferous plant blooms from July through August and occurs in mesic areas within lower and upper montane coniferous forest, meadows and seeps, and riparian forest between 1220 and 2745 meters in elevation. The subject property is located outside of this species' known geographic and elevational ranges, and suitable habitat is not present on-site.

Species	Conservation Requirement Status	Suitability of Subject Property for Organism - Life History and/or Habitat Description
Mojave tarplant (*Deinandra mohavensis*) This species is also a 6.1.2 species.	No	Not Present. This MSHCP-covered species is primarily found in the San Jacinto Mtns. It is also known to occur along washes at the eastern fringes of western Riverside Co. This herb occurs in mesic areas in chaparral, coastal scrub and riparian scrub between 640 and 1,600 meters in elevation. The subject property is outside this species' known geographic distribution and at the low end of its elevational range. It was not detected on-site.
ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*) Also a 6.1.2 species.	No	Not Present. This perennial bulbiferous herb blooms from March through August and occurs along shaded streams and in openings within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest and riparian woodland between 30 and 1800 meters in elevation. Suitable habitat is not present on-site for this tall, conspicuous and easily-detected lily.
Parry's spineflower (*Chorizanthe parryi* var. *parryi*)	Met	Not Detected. This annual herb occurs in sandy or rocky openings in chaparral, cismontane woodland, coastal scrub and grassland between 275 and 1220 meters in elevation. It blooms from April through June and is currently known from approximately 20 occurrences in Riverside County, but does not occur on-site.
peninsular spineflower (*Chorizanthe leptotheca*)	Met	Not Detected. This annual herb blooms from May through August and occurs on natural alluvial fans and granitic areas in chaparral, coastal scrub and lower montane coniferous forests from 300 to 1,900 meters in elevation. Suitable habitat is not present on-site. It occurs on alluvial benches at the base of both the Santa Ana and Agua Tibia Mtns (Vail Like).
Plummer's mariposa lily (*Calochortus plummerae*)	Met	Not Present. This distinctive and easily detected perennial bulbiferous herb is usually found on granitic, rocky slopes within chaparral, cismontane woodland, coastal scrub, and grassland from 100 to 1700 meters. Boyd et al cite the northeastern Santa Ana Mtns, Box Springs Mtn, and Skinner Lake as occurrences. This species was not detected.
Rainbow manzanita (*Arctostaphylos rainbowensis*)	Met	Not Present. This MSHCP-covered species occurs in western Riverside County in both the Aqua Tibia Mountains and the hills above Murrieta in chaparral on basalt flows. This perennial evergreen shrub blooms from December through March and occurs on granitic outcrops in chaparral between 205 and 670 meters in elevation. Suitable habitat for this shrub is not present, and this species is not known to occur within the area. Rainbow manzanita is not on the site.
shaggy-haired alumroot (*Heuchera hirsutissima*)	No	Not Present. This perennial rhizomatous herb blooms from May through July and occurs in rocky and granitic areas in subalpine coniferous forest and upper montane coniferous forest between 1520 and 3500 meters in elevation. The subject property is outside of this species' known geographic and elevational ranges, and suitable habitat is not present on-site.

Species	Conservation Requirement Status	Suitability of Subject Property for Organism - Life History and/or Habitat Description
small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*)	Met	Not Present. This MSHCP-covered herb occurs in western Riverside County; in heavy clay soils associated with vernal pools, grasslands and similar habitats. It blooms from March through May and occurs below 1070 meters in the South Coast region, Peninsular Ranges and San Jacinto Mountains. Suitable habitat is not present on-site.
sticky dudleya (*Dudleya viscida*) Formerly known as sticky-leaved dudleya	No	Not Present. This MSHCP-covered species occurs in western Riverside County. This perennial herb blooms from May through June and occurs in steep, rocky scrub, chaparral, and cismontane woodland between ten (10) and 550 meters in elevation. This dudleya is not detected on-site.
Reptiles		
California mountain kingsnake (San Bernardino population) (*Lampropeltis zonata [parvirubra*]) California mountain kingsnake (San Diego population) (*Lampropeltis zonata [pulchra]*)	No	Not Present. These MSHCP-covered subspecies can occur in southwest Riverside County; however, focused surveys are not specified in the MSHCP and are not required for the subject property. The California mountain kingsnake inhabits mountainous regions across southern California. It prefers moist woods, coniferous forests, oak woodlands, and chaparral above 1000 meters. They are quite secretive, residing in rock crevices or beneath rock and debris piles. They may also utilize rotting logs and seek cover under dense shrubs. Habitat on-site is not particularly suitable, and the subject property is located below these snakes' known elevational range.
southern rubber boa (*Charina umbratica*) Formerly known as *Charina bottae umbratica*	No	Not Present. This MSHCP-covered species possibly occurs on-site though ATV and dirt bike trespassing may have impacted the species locally. The southern rubber boa frequents grassland, broken chaparral, woodland, and forest, in and beneath rotting logs, under rocks, and under bark of fallen and standing dead trees. Habitat on-site is not suitable due to disturbance factors and the lack of dead-wood on-site.
southern sagebrush lizard (*Sceloporus graciosus vandenburgianus*)	No	Not Present. This MSHCP-covered subspecies occurs in western Riverside County; however, this lizard is found within the San Jacinto and Santa Rosa Mountains above 1,524 meters in elevation. Suitable habitat includes montane chaparral, sagebrush (*Artemisia* sp.), hardwood and conifer forests and woodlands and juniper woodlands. Habitat on-site is not suitable, and the subject property is outside of this subspecies' known geographic range.
Birds		

Species	Conservation Requirement Status	Suitability of Subject Property for Organism - Life History and/or Habitat Description
California spotted owl (*Strix occidentalis occidentalis*)	No	Not Present. The California spotted owl has a sparse distribution within the Santa Ana Mountains, San Bernardino Mountains and the San Jacinto Mountains within the MSHCP Plan Area within montane coniferous forest and oak-deciduous woodlands and forests. Suitable habitat is not present on-site, and the subject property is outside this owl's known geographic range. This subspecies would not occur on the subject property.
grasshopper sparrow (*Ammodramus savannarum*)	Partially met	Not Detected. This MSHCP-covered species is not likely to utilize the subject property. The species prefers grasslands with sparse shrub cover. It occurs mainly on hillsides and mesas in coastal districts, but has bred up to 1500 meters in the San Jacinto Mountains. It was not detected on the subject property.
Lincoln's sparrow - breeding (*Melospiza lincolnii*)	No	Not Present. The Lincoln's sparrow has a sparse and widespread distribution throughout the MSHCP Plan Area within a wide variety of habitats. This species occurs within the lowland and foothills of the Plan Area as a transient in the Spring and Fall and may overwinter within the area. This sparrow prefers dense, low underbrush often in disturbed edges with grasses and weeds mixed with shrubs. It occurs in a variety of habitats including willow-sedge swamp, scrub-meadow, and flat land aspen. Breeding in southern California occurs in wet montane meadows of corn lily, sedges and low willows. At lower elevations, this organism prefers mesic willow shrubs and can be found in mixed deciduous groves such as aspen and cottonwoods, mixed shrub-willows, bogs as well as a variety of other riparian habitats. Suitable habitat is absent.
Williamson's sapsucker (*Sphyrapicus thyroideus*)	No	Not Present. This species has declined throughout its range presumably from loss of large snags for nesting. Habitat includes montane coniferous forest dominated by lodge pole pines and firs, and oak woodlands and forests in the San Bernardino and San Jacinto Mountains. Suitable habitat is not present on-site, and the subject property is outside this species' known range.
Mammals		
San Bernardino flying squirrel (*Glaucomys oregonensis californicus*) Formerly *Glaucomys sabrinus californicus*	No	Not Present. This MSHCP-covered species occurs in Riverside County; however, habitat for the San Bernardino flying squirrel in the Plan Area only occurs in the San Jacinto Mountains. Suitable habitat is not present on-site. This squirrel would, therefore, not occur on the subject property.

9.0 Urban/Wildlands Interface

The Project site lies outside of any Criteria Cells designated and described for conservation. The Project, therefore, has very limited negative affect adjacent and downstream conserved areas.

Drainage – Pre-Construction: No pre-construction measures are required to be implemented.

Drainage – Post-Construction: Urban runoff will be treated on-site prior to being discharged, as described in a Water Quality Management Plan (WQMP) that is required by the City of Wildomar. The approved WQMP will require on-site Best Management Practices (BMP's) to address runoff and low flow stormwater quality.

Best Management Practices (BMP's) Construction and Operational: During project grading, a number of BMPs will be implemented to protect off-site downstream areas. These measures include construction of detention basins, use of straw bales and fiber roles (straw wattles) to detain and filter sheet-flow, use of silt fencing where appropriate, utilization of sandbags, installation of mitigation devices to be installed to control dust and dirt in ingress/egress areas for vehicular traffic, dust control via watering, and similar measures. The Water Quality Management Plan (WQMP) is reviewed and approved by the County of Riverside and must include a detailed account of the BMPs that will be utilized. Permanent treatment facilities must also be constructed to protect downstream water quality as part of the proposed Project.

Toxics – Potential toxics in runoff and stormwater will be treated on-site in the post-construction phase. No toxic material would affect existing or future Reserve areas because drainage generated from the proposed Project will be controlled and treated prior to discharge.

Lighting – The proposed Project will be expected to generate night-time light, however, it would not affect any MSHCP-conserved areas. A lighting plan will be prepared as required by the City of Wildomar to reduce lighting effects to adjacent properties, including the water quality basin along the north property line.

Noise – The proposed Project will generate both construction and operational noise. However, the Project site is distant from MSHCP-conserved lands and this noise would not substantially negatively MSHCP Reserve areas.

Invasives – The Project will not be allowed to utilize plants included in *Table 6-2 Plants that Should be Avoided Adjacent to the MSHCP Conservation Area* within Section 6.1.4 of the MSHCP. All proposed landscaping must be included in a landscape plan which will be reviewed by the City of Wildomar to insure that landscape materials do not include the use of invasives and utilizes native and drought tolerant plant materials. The plan must avoid the use of invasive species due to transport by wind, water and biota.

Barriers – The only anticipated barrier around the proposed Project already exists along the west and north property lines. The other property lines face public roadways.

Grading/Land Development – Grading and development of the property has no significant potential to negatively affect MSHCP-conserved areas. The implementation of BMP's and specific conditions of approval which may be required by the City of Wildomar would reduce the impact of development via implementation of the measures described above.

Fuels Management - The MSHCP states: "*Fuels management focuses on hazard reduction for humans and their property… management …shall continue in a manner that is compatible with public safety and conservation of biological resources*.". MSHCP Section 6.4 outlines a framework for working to minimize effects of establishing and maintaining fuel modification zones within designated conservation areas. Because the Project site is located in an urban area surrounded entirely by existing single-family residences and commercial uses, no fuel management is necessary.

10.0 Best Management Practices

During project construction, a number of BMPs will be implemented and enforced by the City of Wildomar Building and Safety Department to protect downstream water resources and sensitive human receptors in the area. Sensitive human receptors include children (disproportionately outdoors and more subject to effects of contamination), the disabled, breathing-impaired or immune-compromised individuals, and the elderly. These groups are more susceptible to the negative effects of uncontrolled dust, pollution from poorly-maintained or older construction equipment, and noise. A Preliminary Water Quality Management Plan ("WQMP"), which includes a detailed account of the BMPs that will be utilized, will be submitted to the City of Wildomar. The following types of BMPs will be implemented for erosion, dust and sediment control, although all of them may not be required:

1. Dust control: Controlled by use of water trucks and cessation of work on windy days.

2. Fiber rolls (wattles): Fiber rolls are placed on the ground to intercept surface waters which contain dirt and sand.

3. Stabilized construction entrances – These facilities prevent mud and dirt from leaving the construction site if tires are very dirty or muddy.

4. Check dams: Check dams hold back surface flows on-site during storm events.

5. Silt fencing: Silt fencing detours and redirects contaminated flow into basins or similar containment features.

6. Straw bale dikes: Straw bales stabilize dirt surfaces and prevent run-off into streets.

7. Sandbags: Sand bags detain and help filter dirty stormwater.

8. Detention basins: temporary areas to detain and filter dirty water.

Post-Construction BMPs

Once the project is constructed, a single Best Management Practice (BMP) will be in operation and will need to be approved by the City of Wildomar. These permanent systems are designed to control erosion, collect sediment, and improve water quality from runoff generated by the site.

The Stormwater Filtration System usually consists of basins and/or bioswales which are designed to capture low flows generated on the Project site and detain those flows on-site while biological processes breakdown and absorb deleterious compounds and substances.

The design of the water treatment system will be approved in advance by the City and will be detailed in the above mentioned WQMP which will be on file with the City of Wildomar.

11.0 MSHCP Project Impacts and Recommended Mitigation Measures

MSHCP Project Impacts

Project-associated impacts within the MSHCP Plan Area are typically offset and mitigated via a number of processes. When projects are within Criteria Cells various combinations of avoidance, fee-payment, land dedication/purchase, and other mechanisms as applicable can be utilized to offset impacts to sensitive species and habitats of all types. Some project areas are required to survey for specific biological resources, such as burrowing owl or fairy shrimp. When those focused surveys are positive and target organisms or their habitats are identified on-site, then avoidance is usually required, and land dedication and other mitigation measures unique to that resource may be necessary. There are no burrowing owls present, therefore, at this time no specific BUOW-related mitigation is necessary. MSHCP fee payment is, however, required to offset the loss of biological resources described in this report that would occur with Project implementation.

Project implementation would result in loss of 10.12 acres of semi-natural habitat. These natural and naturalized upland habitat areas would be permanently removed. Impacts to all upland vegetation communities would be mitigated as described above, through MSHCP fee payment and SKR-fee payment.

With the implementation of the mitigation measures described below, none of these effects are considered to be significant.

Recommended Mitigation Measures

1. Prior to the commencement of grading activities, the developer of the site shall make the appropriate mitigation fee payment into the MSHCP Stephens' kangaroo rat fee payment program for conservation of Stephens' kangaroo rat-occupied habitats in order to offset the loss of potentially suitable Stephens' kangaroo rat habitat on-site through project implementation.

2. Prior to the issuance of certificate of occupancy permits the developer of the site shall make the appropriate MSHCP mitigation fee payment that will contribute to conservation and management of conservation land for all MSHCP-covered organisms.

3. Prior to vegetation clearance, the Project applicant shall retain a qualified biologist to conduct a pre-disturbance nesting bird survey in accordance with the following:

    a) The survey shall be conducted no more than three (3) days prior to the initiation of clearance/construction work;

    b) If pre-disturbance surveys indicate that bird nests are not present or are inactive, or if potential habitat is unoccupied, no further mitigation is required;

    c) If active nests of birds are found during the surveys, a species-specific no-disturbance buffer zone shall be established by a qualified biologist around active nests until a qualified biologist determines that all young have fledged (i.e., no longer reliant upon the nest).

    d) It is recommended that close coordination between the developer of the site, the City of Wildomar, the project engineer, and the consulting qualified biologist to consider vegetation clearance outside of the normal bird nesting season (usually February 15 – Sept 15) to avoid impacts to nesting birds which would potentially violate the federal Migratory Bird Treaty Act. It should be noted that bird nesting season is increasingly less-definitive for some year-round resident species such as hummingbirds and raptors. Further, ground-dwelling birds such burrowing owls, can be affected nearly any time of the year if present. It is therefore advisable to conduct a preconstruction bird survey no matter the time of year.

    e) Removal of vegetation necessitates installation of appropriate Storm Water Pollution Prevention Plan "SWPPP" measures, particularly if grading is not undertaken immediately, therefore careful timing of the project schedule and implementation measures is necessary to avoid water quality impacts.

4. The Project Developer shall retain a qualified biologist to conduct a 30-day pre-construction survey for BUOW. The results of the single one-day survey would be submitted to the City of Wildomar prior to obtaining a grading permit. If BUOW are not detected during the pre-construction survey, no further mitigation is required. If BUOW are detected during the pre-construction survey, the Project applicant and a qualified consulting biologist will be required to prepare and submit for approval a BUOW-relocation program. The report shall be submitted to the Applicant and the City of Wildomar concurrently.

5. In accordance with MSHCP provisions limiting the use of exotic/invasive plant species, the Project's landscape plan shall exclude invasive species such as crimson fountain grass (*Pennisetum setaceum*), pampas grass (*Cortaderia selloana*), giant reed (*Arundo donax*), tree of heaven (*Ailanthus altissima*),

Eucalyptus, and other ornamental landscape elements on the list of exotic invasive plants utilized by the Riverside Conservation Authority.

6. The Project Developer shall implement dust control and all other project-specific Storm Water Pollution Prevention Plan ("SWPPP") measures during grading and construction required by the County of Riverside.

7. TERACOR has determined that Riparian/Riverine and Vernal Pool resources are absent. Prior to the issuance of grading permits, the Project should also be reviewed by a Permitted Fairy Shrimp Biologist to confirm TERACOR's determination of absence or make recommendations for additional investigation if determined appropriate.

8. TERACOR determined that the subject site does not contain resources likely to fall under the jurisdiction of the U.S. Army Corps of Engineers or the California Department of Fish and Wildlife (CDFW) and the California Regional Water Quality Control Board – San Diego Region (Water Board). The City may accept this determination, or seek second party review of this assessment to establish concurrence with this determination.

Level of Significance After Mitigation

Implementation of the proposed mitigation measures described above would reduce all the impacts to the biological resources discussed in this biological assessment to a level considered not significant.

12.0 References

Attached as *Appendix C – References.*

CERTIFICATION: I hereby certify that the statements and exhibits contained in this report present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge.



30 June 2022

Samuel Reed, Principal
U.S. Fish & Wildlife Service Recovery Permit No. 839896-6
Scientific Collecting Permit No. 002267

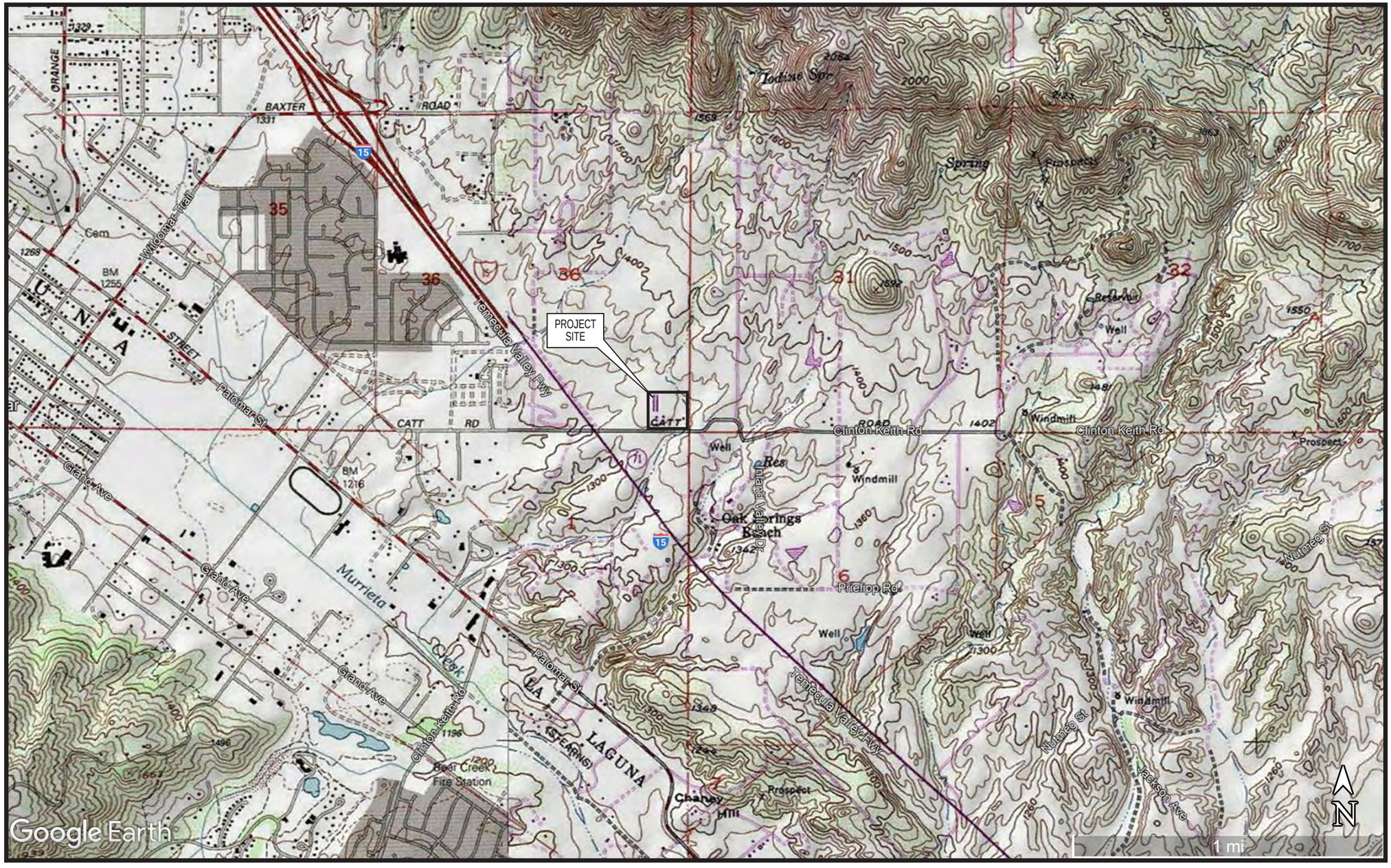
Date



TERACOR RESOURCE MANAGEMENT

Wildomar Crossroads
Source: Google Earth Pro

Exhibit 1
Regional Location



Wildomar Crossroads
Source: Google Earth Pro Earth Point Topo, Murrieta, CA Quadrangle

Exhibit 2
USGS Topo



Photo 1 - Photo taken from the northeast corner of site looking south and west.



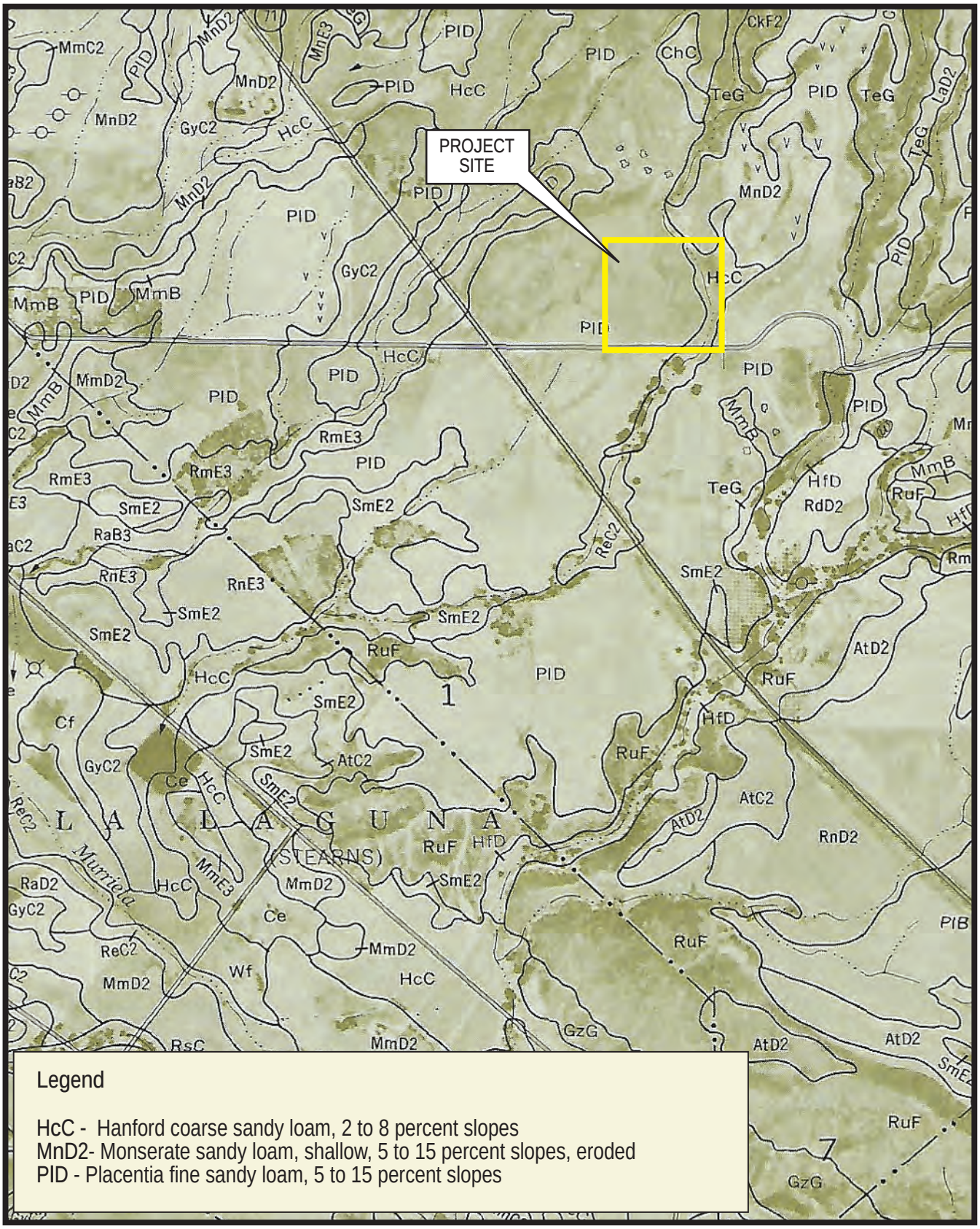
Photo 2 - View from north central end of site facing east and south.



Photo 3 - View of property taken from the northwest corner of the site.



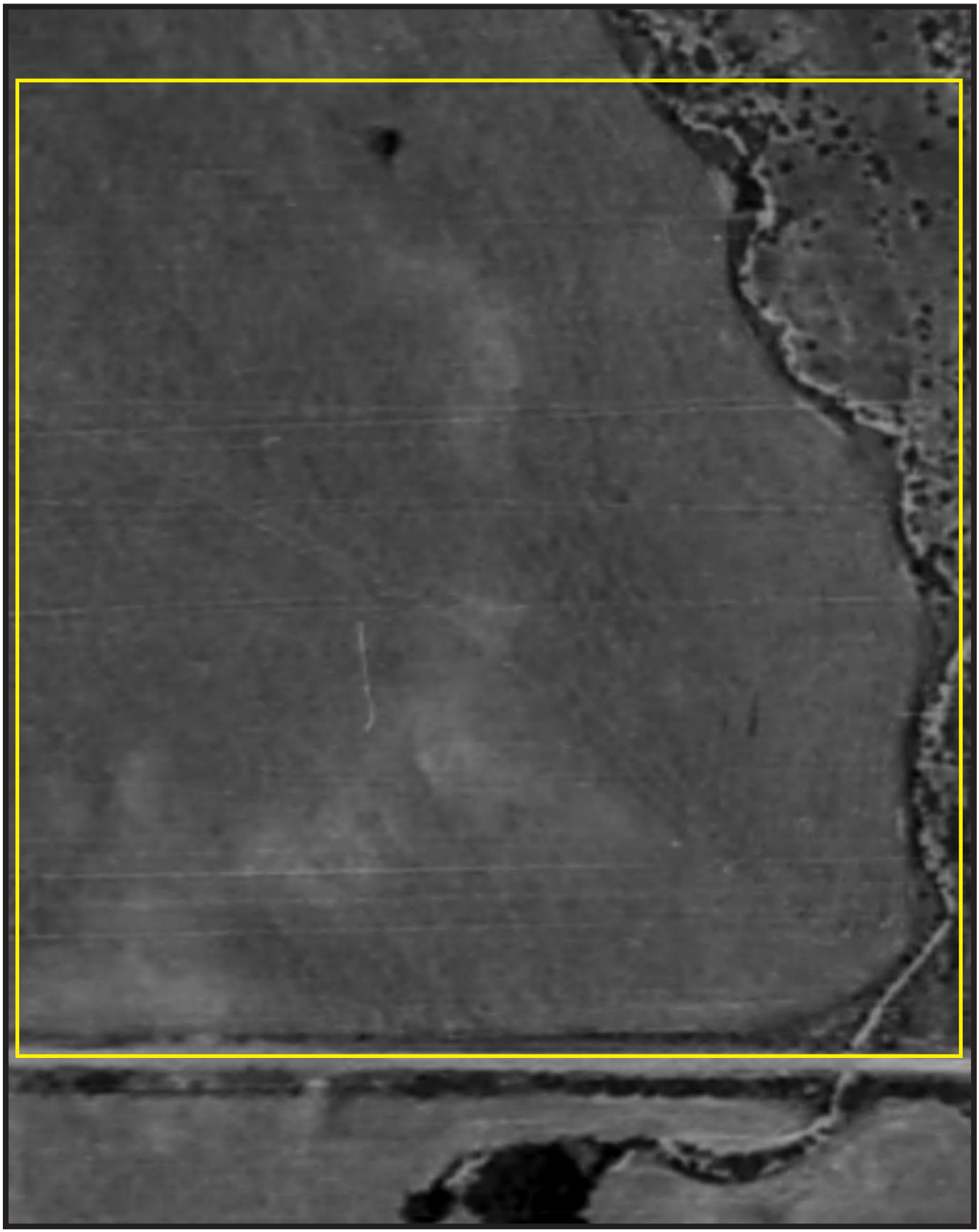
Photo 4 - The site is heavily disturbed. A large berm comprised of earthen fill material was placed in the center of the site. Subsequent disturbances include these spoils piles dumped in the foreground, and disking where feasible for weed control.



TERACOR RESOURCE MANAGEMENT

Wildomar Crossroads
Source: USDA Western Riverside Area Soil Survey

Exhibit 4
Soils



TERACOR RESOURCE MANAGEMENT

North

Wildomar Crossroads
Source: Historicaerials.com

Exhibit 5
Historic Aerial 1938



TERACOR RESOURCE MANAGEMENT

North

Wildomar Crossroads
Source: Historicaerials.com

Exhibit 6
Historic Aerial 1978



TERACOR RESOURCE MANAGEMENT

North

Wildomar Crossroads
Source: Google Earth Pro

Exhibit 7
Historic Aerial 1996

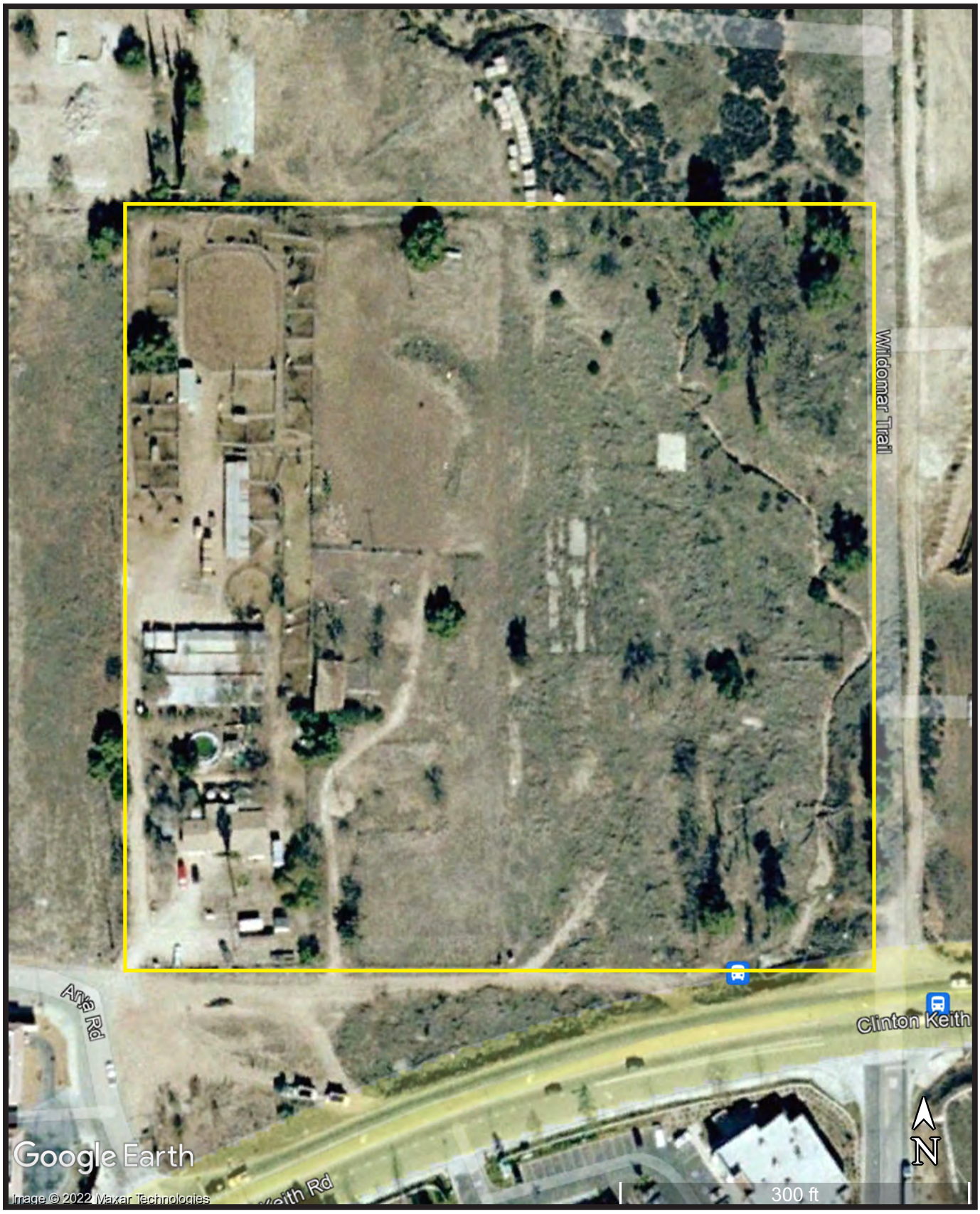


TERACOR RESOURCE MANAGEMENT

North

Wildomar Crossroads
Source: Google Earth Pro

Exhibit 8
Historic Aerial 2002



TERACOR RESOURCE MANAGEMENT

North

Wildomar Crossroads
Source: Google Earth Pro

Exhibit 9
Historic Aerial 2006

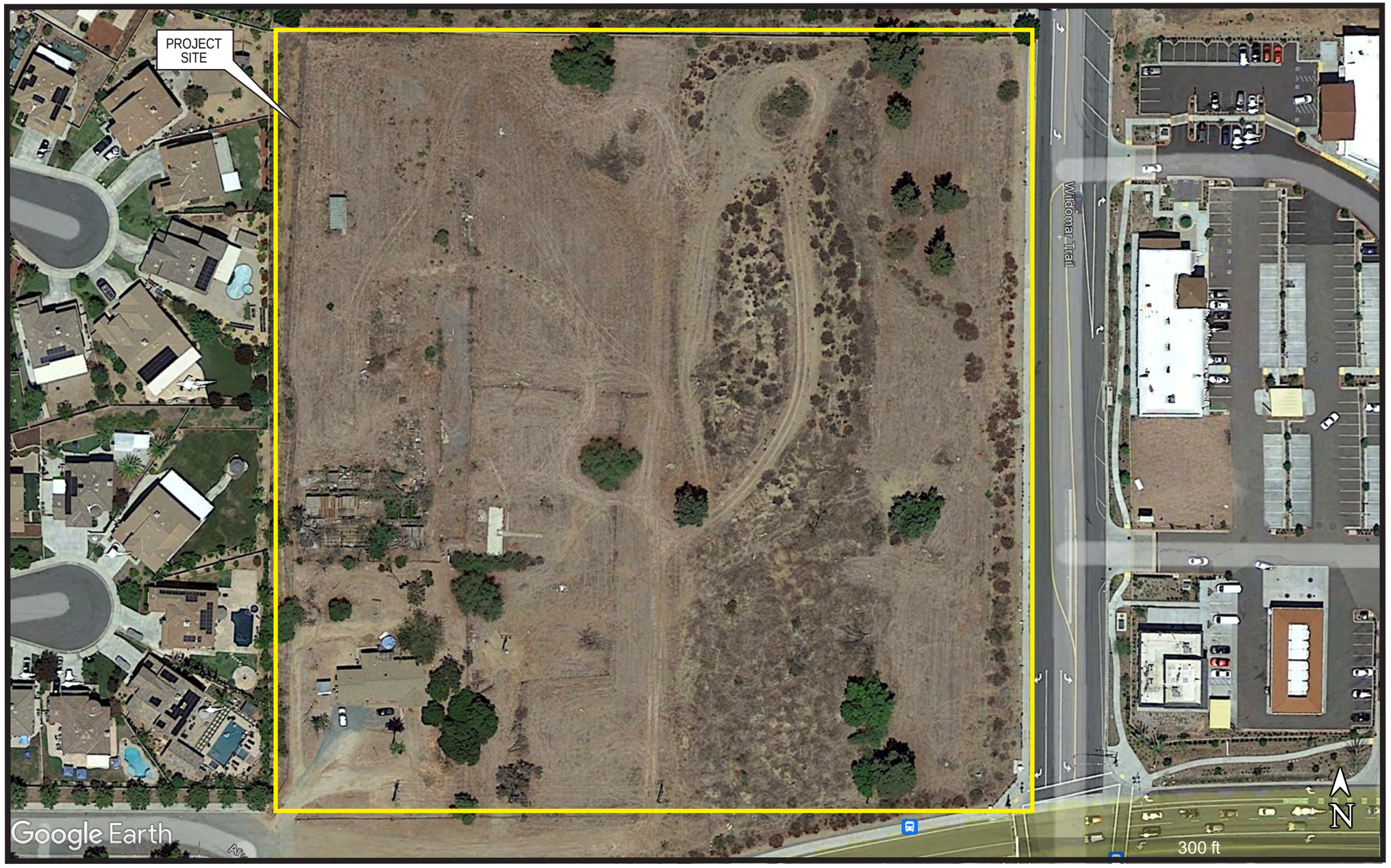


TERACOR RESOURCE MANAGEMENT

North

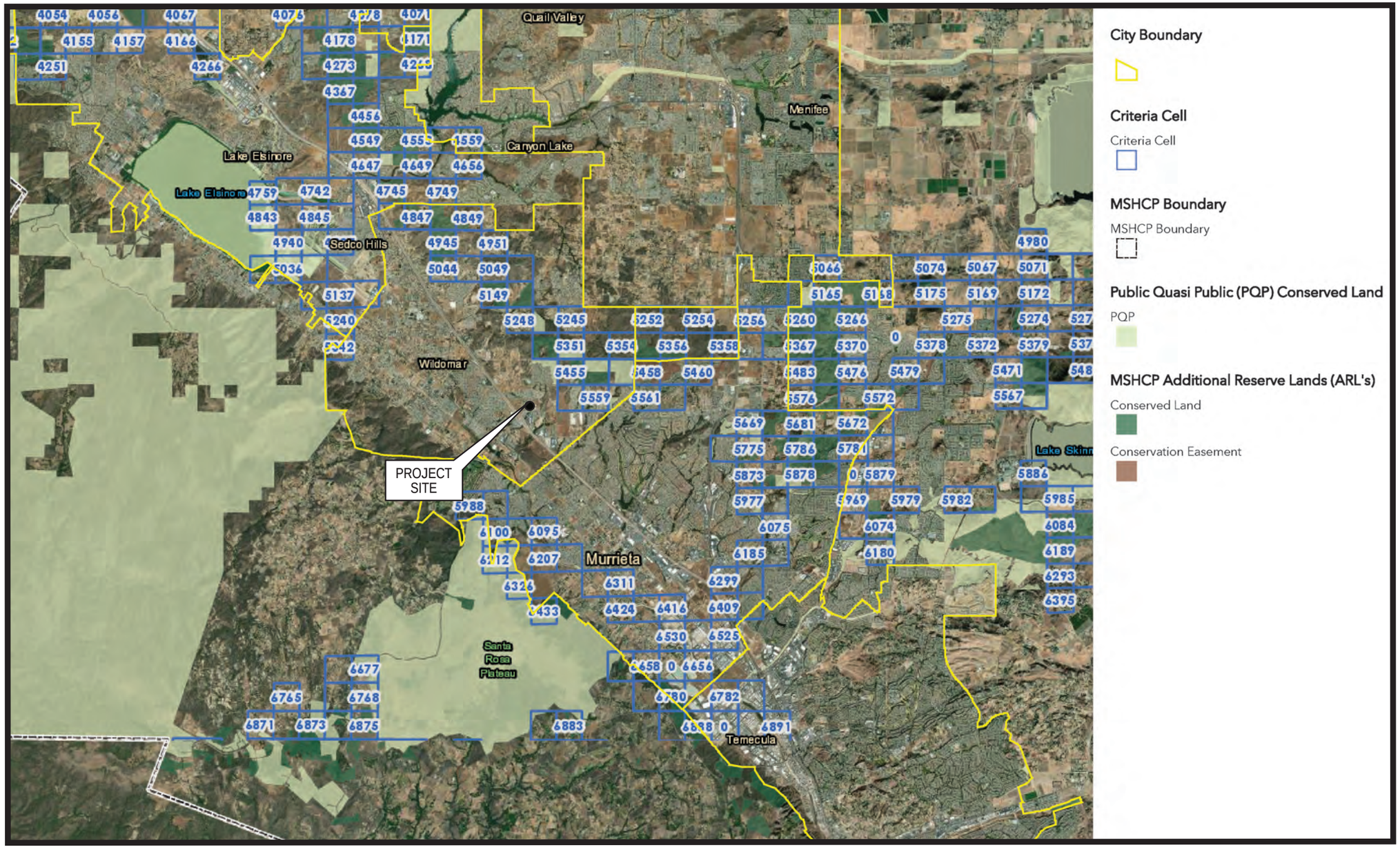
Wildomar Crossroads
Source: Google Earth Pro

Exhibit 10
Historic Aerial 2009



Wildomar Crossroads
Source: Google Earth Pro

Exhibit 11
Aerial Photo 2021



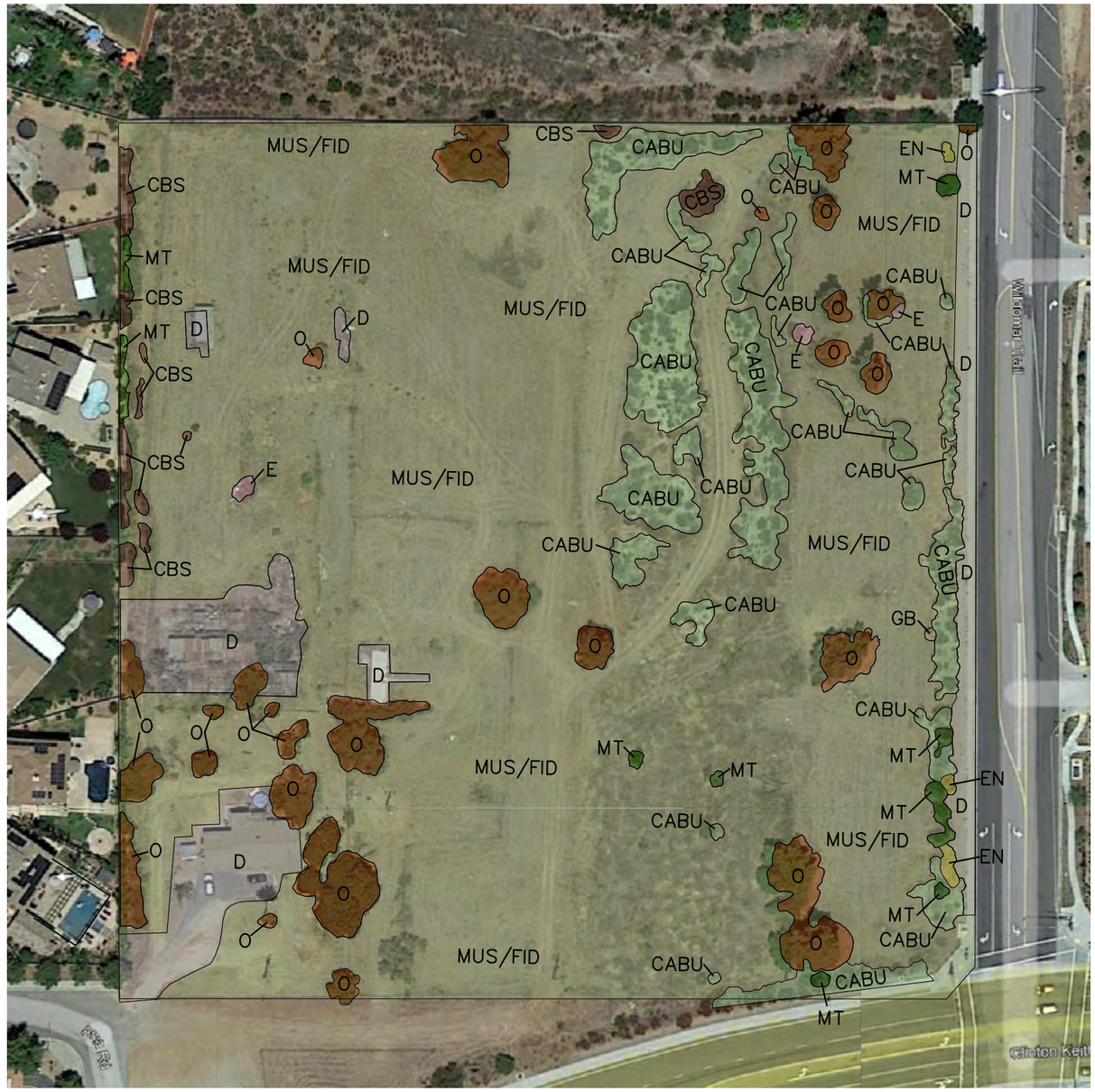
TERACOR RESOURCE MANAGEMENT

Wildomar Crossroads
Source: Riverside County Regional Conservation Authority

Exhibit 12
RCA MSHCP Information Map
Public Quasi-Public Conserved Lands

LEGEND

COLOR	VEGETATION ALLIANCES	CA-CODE	ACRES
	GB - NARROWLEAF GOLDENBUSH SCRUB	38.125.01	0.002
	CABU - CALIFORNIA BUCKWHEAT SCRUB	32.040.02	0.72
	MUS / FID - UPLAND MUSTARDS / FIDDLENECK FIELD	42.011.05 / 42.110.03	7.94
	CBS - COYOTE BRUSH SCRUB	32.060.00	0.07
	MT - MULEFAT THICKETS	63.510.00	0.05
	EN - BRITTLEBUSH SCRUB	33.030.01	0.013
	E - BLUE ELDERBERRY STAND	63.410.01	0.012
	D - DISTURBED	NO CA-CODE	0.73
	O - ORNAMENTAL / NON-NATIVE TREES	NO CA-CODE	0.58
		TOTAL	10.12



TERACOR
RESOURCE MANAGMENT
41635 Enterprise Cir. North, Suite B
Temecula, California 92590

4M ENGINEERING AND DEVELOPMENT, INC.
41635 Enterprise Circle N. – Suite B
Temecula, California 92590
TEL: (951) 296-3466
KIRK R. MEDEROS R.C.E. 86558

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

EXHIBIT 13

VEGETATION ALLIANCES

LEGEND

COLOR	POTENTIAL FEATURES	POTENTIAL ACREAGE	DETERMINED R/R/VP	AFFECTED ACREAGE	TOTAL AFFECTED ACREAGE R/R/VP
	FEATURE 1	0.058	NO	0.0	0.0
	FEATURE 2	0.007	NO	0.0	0.0
	FEATURE 3	0.004	NO	0.0	0.0
	FEATURE 4	0.003	NO	0.0	0.0
	TOTAL	**0.072**	**NONE**	**0.0**	**0.0**



GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

AERIAL PHOTO DATE: 2021

4M ENGINEERING AND DEVELOPMENT, INC.
41635 Enterprise Circle N. - Suite B
Temecula, California 92590
TEL: (951) 296-3466
KIRK R. MEDEIROS R.C.E. 86558

TERACOR RESOURCE MANAGMENT
41635 Enterprise Cir. North, Suite B
Temecula, California 92590

EXHIBIT 14

POTENTIAL RIPARIAN / RIVERINE / VERNAL POOL RESOURCES



Photo 1 - Feature 1 - Terminus of Feature 1 looking upstream. Stake No. 20.5 at the terminus of the former drainage.



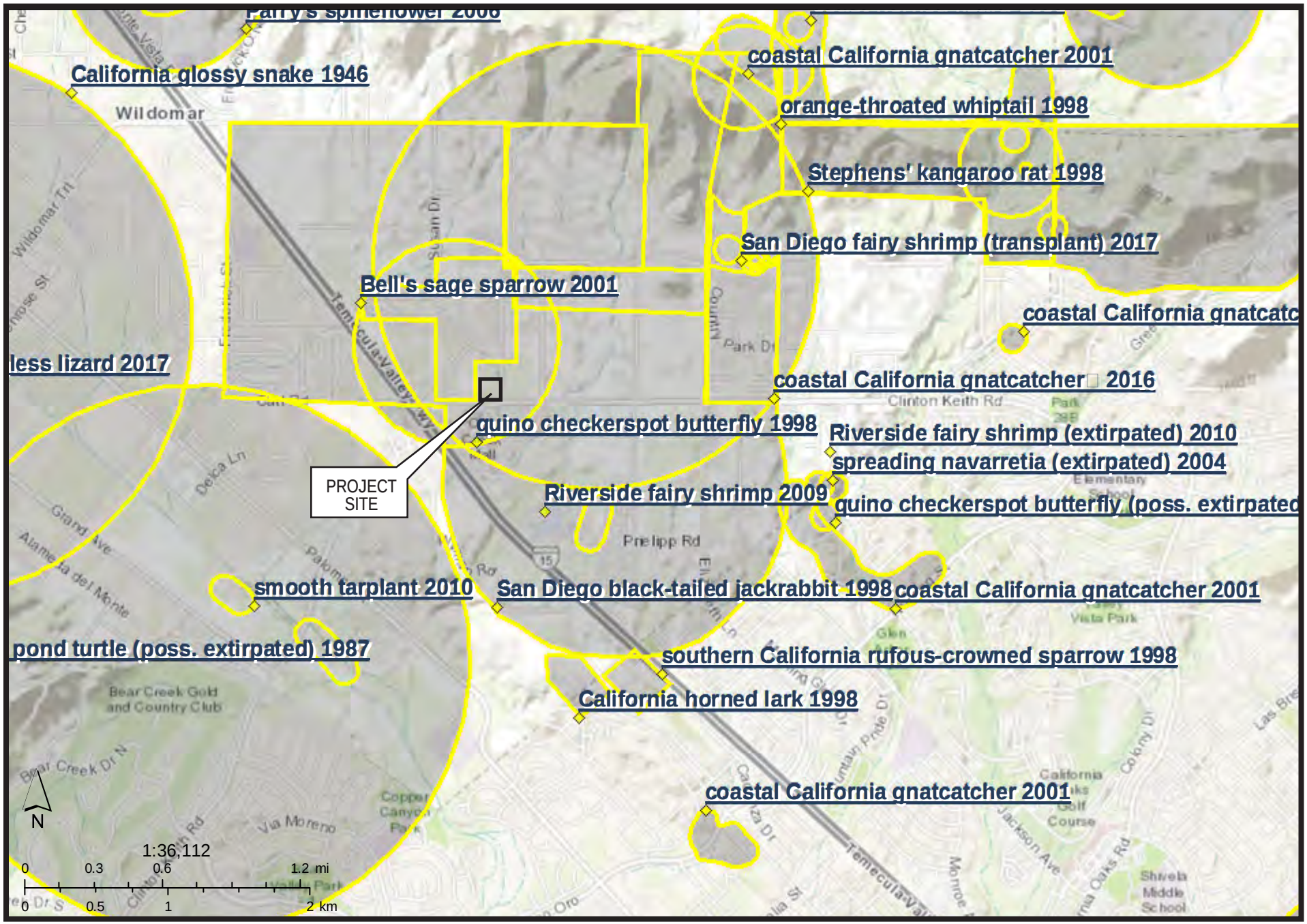
Photo 2 - Feature 2 - Stormdrain intake along Wildomar Trail. Note orange flagging delineating top of the human-constructed intake basin.



Photo 3 - Feature 3 - Storm intake basin at southeast corner of site at Wildomar Trail and Clinton Keith.



Photo 4 - Feature 4 - Human manufactured depression in fill material and near high point of fill material in the north central area of the property.



TERACOR RESOURCE MANAGEMENT

Wildomar Crossroads
Source: CDFW CNDDB

Exhibit 16
CNDDB Locations

Appendix A
Faunal Species Observed

Birds

Birds were observed with 10x40 binoculars. Birds were identified following *The Sibley Field Guide to Birds 2nd Edition* (2014), and updated to conform to changes in nomenclature consistent with the most recent American Ornithological Society checklist. Non-native species have been noted below with an asterisk (*) following the scientific name.

Scientific Name	Common Name
Aegithalidae	Bushtits
Psaltriparus minimus	bushtit
Columbidae	Pigeons and Doves
Zenaida macroura	mourning dove
Corvidae	Crows, Jays and Magpies
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Fringillidae	Finches
Haemorhous mexicanus	house finch
Spinus psaltria	lesser goldfinch
Mimidae	Mockingbirds, Thrashers
Mimus polyglottos	northern mockingbird
Passerellidae	New World Sparrows
Melozone crissalis	California towhee
Passeridae	Old World Sparrows
*Passer domesticus**	house sparrow
Sturnidae	Starlings
*Sturnus vulgaris**	European starling
Sylviidae	Gnatcatchers
Chamaea fasciata	wrentit
Trochilidae	Hummingbirds
Calypte anna	Anna's hummingbird

Scientific Name	Common Name
Tyrannidae	Flycatchers
Sayornis nigricans	black phoebe

Mammals

Species seen or detected via sign are listed. Nomenclature follows *Peterson Field Guides: Mammals of North America* (Reid 2006). Non-native species have been noted below with an asterisk (*) following the scientific name.

Scientific Name	Common Name
Leporidae	Rabbits and Hares
Sylvilagus audubonii	Audubon's cottontail
Muridae	Rats and Mice
Neotoma fuscipes	dusky-footed woodrat
Sciuridae	Squirrels, Chipmunks and Marmots
Ostospermophilus beecheyi	California ground squirrel

Amphibians and Reptiles

Identification of amphibians and reptile species were made visually, with nomenclature following R.C. Stebbins (2003) *A Field Guide to Western Reptiles and Amphibians,* third edition, updated to conform to the most recent changes in nomenclature utilizing The Center for North American Herpetology.

Scientific Name	Common Name
Reptiles	
Lizards	
Phrynosomatidae	Zebra-tailed, Fringe-toed, Spiny, Tree, Side-Blotched, and Horned Lizards
Sceloporus occidentalis	western fence lizard
Snakes	
Viperidae	Vipers
Crotalus oreganus helleri	southern Pacific rattlesnake

Appendix B
Floral Species Observed

Vegetation List

The species listed below were detected within the subject property during field surveys performed in 2022. Field identifications are a composite list prepared by S. Reed and M. Long. Scientific names follow *The Jepson Manual, Vascular Plants of California - Second Edition*, 2012, and have been updated following the Jepson Online Interchange for California Floristics database (2014). Non-native species have been noted below with an asterisk (*) following the scientific name. Exotic trees were not systematically included in the list, although some well-known species are.

Scientific Name	Common Name
Adoxaceae	Muskroot Family
Sambucus nigra ssp. *caerulea*	blue elderberry
Anacardiaceae	Sumac Family
*Schinus terebinthifolius**	Brazilian pepper tree
Apiaceae	Carrot Family
Daucus pusillus	rattlesnake weed
Apocynaceae	Dogbane Family
*Nerium oleander**	oleander
*Vinca major**	greater periwinkle
Arecaceae	Palm Family
*Washingtonia robusta**	Mexican fan palm
Asteraceae	Sunflower Family
Achillea millefolium	common yarrow
Artemisia californica	California sagebrush
Baccharis pilularis	coyote brush
Baccharis salicifolia	mulefat
*Centaurea solstitialis**	yellow star-thistle
Corethrogyne filaginifolia	California-aster
Deinandra fasciculata	fascicled tarplant
Encelia farinosa	brittlebush
Ericameria linearifolia	narrowleaf goldenbush
Erigeron canadensis	horseweed
Heterotheca grandiflora	telegraph weed
*Lactuca serriola**	prickly lettuce
Pseudognaphalium californicum	ladies' tobacco
*Oncosiphon piluliferum**	stinknet
*Taraxacum officinale**	common dandelion

Scientific Name	Common Name
Boraginaceae	Borage Family
Amsinckia intermedia	common fiddleneck
Amsinckia menziesii	Menzies' fiddleneck
Cryptantha intermedia	popcorn flower (common)
Heliotropium curassavicum	salt heliotrope
Pectocarya sp.	popcorn flower
Brassicaceae	Mustard Family
*Brassica nigra**	black mustard
*Hirschfeldia incana**	short pod mustard
*Sisymbrium orientale**	Oriental mustard
Chenopodiaceae	Goosefoot Family
*Atriplex semibaccata**	Australian saltbush
Fabaceae	Legume Family
Acmispon glaber	deerweed
*Melilotus officinalis**	sweetclover
Geraniaceae	Geranium Family
*Erodium cicutarium**	red-stem filaree
Juglandaceae	Walnut Family
*Carya illinoinensis**	pecan
Lamiaceae	Mint Family
*Marrubium vulgare**	white horehound
Trichostema lanceolatum	vinegarweed
Meliaceae	Mahogany Family
*Melia azedarach**	China berry
Myrtaceae	Myrtle Family
*Eucalyptus sideroxylon**	red iron bark
Oleaceae	Olive Family
*Fraxinus uhdei**	shamel ash
*Olea europaea**	European olive
Onagraceae	Evening Primrose Family
Camissoniopsis micrantha	small-flowered evening-primrose
Pinaceae	Pine Family
*Pinus eldarica**	Afghan pine

Scientific Name	Common Name
Poaceae	Grass Family
*Bromus diandrus**	ripgut grass
Bromus madritensis ssp. *rubens**	red brome
*Bromus tectorum**	cheat grass
*Hordeum murinum **	foxtail barley
Melica imperfecta	onion grass
Polygonaceae	Buckwheat Family
Eriogonum davidsonii	Davidson's buckwheat
Eriogonum fasciculatum	California buckwheat
*Rumex crispus**	curly dock
Salicaceae	Willow Family
Salix laevigata	red willow
Solanaceae	Nightshade Family
Datura wrightii	jimson weed
*Nicotiana glauca**	tree tobacco

Appendix C
References

Boyd, S., Roberts, F., Sanders, A and White, S., *The Vascular Plants of Western Riverside County, California – An Annotated Checklist*, 2004.

California Department of Fish and Game, September 2003 Edition, *List of California Terrestrial Natural Communities Recognized by the Natural Diversity Data Base*, Natural Heritage Division, 64 pages.

California Department of Fish and Game, January 2005. *Special Vascular Plants, Bryophytes, and Lichens List*, Natural Heritage Division, Natural Diversity Data Base, 141 pages.

California Department of Fish and Game, 1992. *Natural Communities*. (Update of Holland, R., 1986).

California Department of Fish and Game. *California Natural Community List*. 09 September 2020.

California Native Plant Society, *Inventory of Rare and Endangered Vascular Plants of California, Special Publication No. 1, Sixth Edition*, August 2001, 387 pages.

Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page, 131 pages.

Google Inc., 2022. *Google Earth Pro*, version 7.3.0.3832.

Google Inc., 2022. *Google Earth Pro Earth Point Topo*, version 7.3.1.4507.

Historic Aerials by NETRONLINE https://www.historicaerials.com

Hickman, J.C., ed., 1993. *The Jepson Manual, Higher Plants of California*. U.C. Press, 1400 pages.

Holland, R.F., 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game Report, 156 pages. (Publication updated 4/92, unattributed).

Reed, P.B. Jr., 1988. *National List of Plant Species that Occur in Wetlands: California - Region 0*. United States Fish and Wildlife Service Biology Report. 88(26.10), 136 pages.

Regional Conservation Authority. Multiple Species Habitat Conservation Plan. County of Riverside. 17 June 2003.

Sawyer, J.O., & T. Keeler-Wolf, 1995. *A Manual of California Vegetation*. California Native Plant Society, 471 pages.

Soil Conservation Service (US Department of Agriculture), 1971. *Soil Survey of Western Riverside Area, California*. 155 pages.

TERACOR Resource Management, Inc. - *Step I Habitat Assessment, Step II, Part a Focused Burrow Survey and Part B Focused Burrowing Owl Surveys for a 10.12-Acre Property Located in the City Of Wildomar, Riverside County, California,* dated 20 June 2022.

U.S. Army Corps of Engineers, 1987. *Corps of Engineers Wetlands Delineation Manual*.

U.S. Army Corps of Engineers, 2016. *State of California 2016 Wetland Plant List* Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17.

United States Department of Agriculture, *Web Soil Survey - Western Riverside Area, California*, National Cooperative Soil Survey, Natural Resources Conservation Service, http://websoilsurvey.nrcs.usda.gov

United States Geological Survey. 1953. Photo revised 1979. *Murrieta, California Quadrangle*. A U.S.G.S. Topographic Quadrangle Map, one sheet.

United States Geological Survey. 1953. Photo revised 1988. *Wildomar, California Quadrangle*. A U.S.G.S. Topographic Quadrangle Map, one sheet.

Western Riverside County Regional Conservation Authority. *MSHCP Information Map.* https://wrcrca.maps.arcgis.com/apps/webappviewer

Western Riverside County Regional Conservation Authority. *Multiple Species Habitat Conservation Plan*. County of Riverside. 17 June 2003.

Appendix D
List of Abbreviations/Acronyms

Acronyms	
BUOW	Burrowing Owl
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
FC	Federal Candidate Species
FDL	Federally Delisted
FE	Federally listed as Endangered
FESA	Federal Endangered Species Act
FPD	Federally Proposed for delisting
FPE	Federally Proposed as Endangered
FPT	Federally Proposed as Threatened
FT	Federally listed as Threatened
MSHCP	Western Riverside County Multiple Species Habitat Conservation Plan
MSL	Mean Sea Level
RWQCB	California Regional Water Quality Control Board – Santa Ana
SCE	State Candidate for Endangered
SCT	State Candidate for Threatened
SDL	State Delisted
SE	State listed as Endangered
SFP	State Fully Protected
SSA	State Special Animal
SSC	Species of Special Concern
ST	State listed as Threatened
SWL	State Watch List Species
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Appendix 4

Focused Burrowing Owl Surveys

Step I Habitat Assessment, Step II, Part a Focused Burrow Survey and Part B Focused Burrowing Owl Surveys for a 10.12-Acre Property Located in the City Of Wildomar, Riverside County, California

(Assessor's Parcel Nos. 376-410-015, 376-410-016, 376-410-017, and 376-410-021)

Located Within Section 36 of Township 6 South, Range 4 West, of the Murrieta, California Quadrangle

Prepared for:

City of Wildomar

and

Ralph W. Deppisch, Director of Development
Sage Investco, LLC
4340 Von Karman Avenue, #110
Newport Beach, California 92660

Prepared by:

TERACOR Resource Management, Inc.
41635 Enterprise Circle North, Suite B
Temecula, California 92590
Office: (951) 694-8000
Fax: (951) 694-8035

Surveys Conducted By:
S. Reed, Principal
on 16 March, 11 April, 27 April, 09 May, and 24 May 2022

TERACOR
RESOURCE MANAGEMENT

20 June 2022

Table of Contents

1.0 Introduction 1
2.0 Methods 4
3.0 Results 6
4.0 Conclusion and Recommendations 10

Appendix A – Faunal Species Observed ..... A - 1
Appendix B – Floral Species Observed ..... B – 1
Appendix C – G.P.S. Locations ..... C – 1
Appendix D – References ..... D – 1

List of Tables and Appended Exhibits

Table 1 – Meteorological Data 6
Table 2 – Soil Types 9

Exhibit 1 – USGS Topo – Pre-disturbance ..... attached in order
Exhibit 2 – USGS Topo – Current ..... attached in order
Exhibit 3 – Transect Locations ..... attached in order
Exhibit 4 – Vegetation Alliances ..... attached in order
Exhibit 5 – Burrowing Owl CNDDB Locations ..... attached in order
Exhibit 6 – Soils ..... attached in order
Exhibit 7 – Site Photos ..... attached in order
Exhibit 8 – Suitable Burrow Locations ..... attached in order

1.0 Introduction

Purpose

Step I Habitat Assessment and Step II, Part A Focused Burrow Survey

TERACOR Resource Management, Inc. ("TERACOR") initially conducted a focused habitat suitability assessment on 16 March 2022 to evaluate the biological resources on-site to determine if: 1) suitable burrowing owl (*Athene cunicularia*) ("BUOW") habitat is present on the10.12-acre site, and 2) determine if any burrows on-site could potentially be utilized by BUOW.

Due to the presence of suitable open habitat on the project site, it's proximity to open habitat to the northeast, and the prevalence of California ground squirrel (*Otospermophilus beecheyi*) burrows and activity on the site, TERACOR conducted a Step II, Part A Focused Burrow Survey on the subject property on 11 April 2022 to locate and record California ground squirrel burrows on-site. Any habitat area within the Riverside County Multi-Species Habitat Conservation Plan area with sparsely-vegetated ground and supporting ground squirrel burrows is generally considered to be potentially suitable habitat for BUOW. BUOW has historically occurred in the Plan area and is known to opportunistically utilize ground squirrel burrows.

TERACOR examined the outer structure of each burrow encountered and mapped for evidence of BUOW occupation. We concluded there were a relatively high number of potentially-occupiable burrows present on-site, but that all potentially suitable burrows lacked any BUOW diagnostic sign. Nonetheless, due to the presence of potentially suitable BUOW burrows, the open nature of much of the subject property, and the relatively high mobility of the organism, TERACOR recommended focused surveys be conducted within the BUOW nesting season.

Step II, Part B Focused Burrowing Owl Survey

After conducting the initial habitat assessment on 16 March 2022 and burrow survey on 11 April 2022, TERACOR proceeded with focused surveys on the subject property on 11 April, 27 April, 09 May, and 24 May 2022. These surveys were performed to determine the following:

1. Confirm the geographic extent of any suitable BUOW habitat present on the site;
2. Assess whether burrows detected on-site showed any evidence of utilization by BUOW;
3. Detect and record all parameters of occupation of BUOW if detected; and
4. Establish the number of BUOW individuals if encountered on-site.

Information contained herein is based on known BUOW life history parameters as described in MSHCP documentation and information published by the California Department of Fish and Wildlife, our field reconnaissance within the above-stated survey dates, and other pertinent information. As required by the Survey Guidelines for the MSHCP Plan Area, we visually scanned perimeters of the subject property, but these lands have been developed and we made no intentional entry into adjoining properties as we did not have permission from property owners to do so. On-site, we conducted transect surveys across suitable areas. *Exhibit 3 – Transect Locations* illustrates survey routes.

Property Location

The proposed project Wildomar Crossroads, a proposed mixed-use project, is located at 24850-23980 Catt Road, Wildomar, California 92595. It lies within the southeast portion of the City of Wildomar, at the northwest intersection of Clinton Keith Road and Wildomar Trail. Regional access to the project site is provided by Interstate 15 (I-15) located approximately 0.15 miles southwest and Interstate 215 (I-215) located 3.8 miles east.

The property is geographically located within Section 36 of Township 6 South, Range 4 West of the *Murrieta, California 7.5 Minute Series U.S.G.S. Topographic Quadrangle*, as depicted in the attached *Exhibit 1 - USGS Topo – Pre-disturbance* and *Exhibit 2 – USGS Topo – Current.*

The site is identified by Assessor's Parcel Numbers 376-410-015, 376-410-016, 376-410-017, and 376-410-021.

Project Description

The proposed project would consist of demolishing the existing structures and other site improvements. A new mixed-use development, including a multi-family complex and commercial shopping center would be constructed. The Wildomar Crossroads site plan is incorporated in the application package.

The **residential** portion of the project is proposed for 4.48 acres of the site and includes 150 units ranging from 580 SF to 1,115 SF and will offer studio (8%), one-bedroom (54%), and two-bedroom (38%) plans with an anticipated 9 plan types in total. This development is proposed on the western side of the site with parking along the western and northern edges. The approximate density is 33.5 du/ac.

The **commercial** portion of the project is proposed for the eastern 4.53 acres of the site and includes a market, shops, and restaurants. The 23,104 square foot Sprouts Farmers Market and 5,087 square foot attached building for shops and quick serve restaurants are located on the northern end of the commercial site. The restaurants are located at the southern end of the commercial site. Pad 1 is located in the southwest corner and is planned as a 2,750 square foot drive-thru. Pad 2 is located on the southeast corner and includes 3,348 square feet of restaurant space as well as a 1,133 square feet coffee drive-thru. The restaurants, consist of a maximum of 12,318 square feet of indoor space and approximately 4,500 square feet of outdoor eating areas and multi-function gathering space which will be open for breakfast, lunch and dinner daily. The hours of operation are yet to be determined. Up to 50 employees would be expected onsite at any one time.

Site Conditions

This property has undergone substantial modifications over several decades. In addition to the rural residential development and animal husbandry structures located in the southwest and west side of the property, it appears various other agricultural projects were undertaken on-site, including development of outbuildings, irrigation systems, and an orchard. A USGS-designated blueline drainage formerly traversed the site, but this feature was beheaded by the construction of Tract No. 30155 (to the north and west of the

property). This action profoundly affected the functionality of the drainage, since it was cut-off from its' natural upper watershed. Further, the drainage was truncated by the full-width development of both Clinton Keith Road and Wildomar Trail and existing development to the south and west. These actions caused the relictual drainage feature to be isolated, and functional values either eliminated of significantly diminished. Any residual drainage derived from the site is shunted unground to the west and south through urban development.

There are also numerous historic disturbances on the site. These disturbances include building construction, agricultural modifications, and grading activity. Our analyses of historic aerial imagery suggest that most grading modifications occurred at the time Tract No. 30155 to the north and west was constructed. This fill appears to be comprised primarily of unconsolidated sandy soils. These dirt spoils piles likely absorb a good deal of rainfall due to their porosity. There remains some evidence of sheet-flow in lesser-disturbed areas. A large hillock lies centrally on the site. It also appears to be a stockpile of earthen material. Rural-residential farm-like development and associated ornamental trees such as pine, olive, and Peruvian pepper are present across the site. Though the home appears occupied, all associated sheds and barn-type structures are dilapidated. Despite all these disturbances, the high number of ground-squirrel (*Ostospermophilus beecheyi*) burrows on-site and the presence of open fields led TERACOR to conclude that BUOW focused surveys were necessary.

Background

BUOW is a **California Department of Fish and Wildlife** ("CDFW") "Species of Special Concern – Second Priority." Both the federal and state resource agencies have declined to list the species as endangered or threatened based on abundance of the species in some California locations and other western states. The Western Riverside County Multiple Species Habitat Conservation Plan ("MSHCP") affords special consideration to BUOW due largely to localized declines and requires evaluations as to their potential presence within specified survey areas across the Plan Area. BUOW can inhabit grasslands, deserts, and scrublands characterized by low-growing vegetation. Burrows are the essential component of BUOW habitat, which provide protection, shelter, and nests for BUOW (Henny and Blus 1981). BUOW typically utilize burrows made by fossorial mammals, such as California ground squirrels and/or even more secretive mammals such as American badger (*Taxidea taxus*). BUOW are also known to utilize man-made structures, such as cement culverts, pipes, asphalt or wood debris piles, and in openings beneath cement or asphalt pavement (*Burrowing Owl Survey Instructions*, Riverside County Environmental Planning Department ["EPD"], 29 March 2006).

BUOW may utilize a site for breeding, wintering, foraging, and/or migration stopovers. BUOW often exhibit high site fidelity, reusing burrows year after year (Rich 1984, Feeney 1992, Consortium Guidelines). The Guidelines also state a site may be assumed "occupied" if at least one (1) BUOW has been observed occupying a burrow within the last three (3) years, although more recent evidence would appear prudent to assert "active occupation" by a species not considered endangered or threatened. Occupation status of suitable BUOW habitat can be verified at a site by an observation of at least one (1) BUOW, or, alternatively, its molted feathers, cast pellets with characteristic prey remains, prey remains, eggshell fragments, or excrement at or near a burrow entrance (Burrowing Owl Consortium, *Occupied Burrowing Owl Habitat*). Other occupation indicators include Orthoptera (grasshoppers, katydids, and crickets) and Coleoptera (beetles) exoskeletal material in the immediate vicinity of the burrow.

2.0 Methods

Burrowing Owl Survey Methods

There are no applicable formal federal or state-adopted Survey Protocols for BUOW, however, the **County of Riverside** adopted the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (Environmental Programs Department ["EPD"], 2006) ("Survey Instructions"). The Survey Instructions were published to replace the *Burrowing Owl Consortium Guidelines* to address consistency with:

1) Specific conservation requirements of the MSHCP for BUOW, and

2) Ensure direct mortality of BUOW is avoided through implementation of preconstruction surveys.

Step I: Habitat Assessment: is the first step in the survey process to assess the presence/absence of BUOW, specifically BUOW habitat, on the project site. TERACOR conducts physical walkovers of individual sites to determine if BUOW habitat, as described above, is present on-site. If suitable habitat is found on-site, then walkovers of an approximate 150 meter (500 feet) buffer zone surrounding the project is required. If permission to access surrounding private properties has not been granted, then TERACOR field personnel visually inspect surrounding properties utilizing 10x40 or 8x32 binoculars.

Further, if BUOW habitat is present on-site, TERACOR subsequently conducts a Step II: Locating Burrows and Burrowing Owls Survey. Step II surveys must be conducted during the breeding season (March 1 to August 31), and must be comprised of a minimum of one (1) site visit. Moreover, all Step II surveys are to be performed during weather that is conducive to observing owls outside of burrow complexes, and are not accepted if they are conducted during rain, high winds (>20 mph), dense fog, or temperatures over 90°F. BUOW sign may not be detectable if surveys are conducted within five days following rain.

Step II surveys are comprised of two (2) components; *Part A: Focused Burrow Surveys* and *Part B: Focused Burrowing Owl Surveys*.

Part A: Focused Burrow Surveys consist of a systematic survey for burrows by walking through suitable habitat areas. Suitable habitat areas are walked at maximum transect intervals spaced at approximately 30 meters (100 feet), with transect interval variations to accommodate terrain, vegetation density, and ground surface visibility. Project sites of 100 acres or more are generally transected by two (2) or more TERACOR field personnel. Burrow Surveys are physical inspections of burrows located within suitable habitat or potential foraging habitat on-site. If BUOW burrows or BUOW are recorded during surveys, BUOW and BUOW burrow locations are mapped using a hand-held G.P.S. unit and on aerial or topographic mapping. In contrast, if no potential burrows are observed during burrow surveys then no further surveys are required.

Part B: Focused Burrowing Owl Surveys are conducted if burrows which could potentially support BUOW are determined to be present during Part A: Focused Burrow Surveys. Part B surveys are conducted on four (4) separate survey dates, though the first may be conducted concurrently with the Focused Burrow

Survey. Initially, these surveys are performed by scanning all suitable habitat areas, mapped burrows, owl sign, and owls both on-site utilizing 10x40 or 8x32 binoculars. Off-site areas in all directions have been developed with urban infrastructure, housing and commercial development. Therefore, those adjacent developed properties were not visually scanned. Subsequently, TERACOR field personnel conduct walkovers at maximum transect intervals spaced at between 20 to 25 meters (approximately 60 - 75 feet), with transect interval variations to accommodate terrain, vegetation density, and ground surface visibility.

Step III: Reporting Requirements: states that once the appropriate surveys have been completed, a report shall be submitted to EPD, which outlines the survey methodologies, transect width, duration, conditions, and results of the survey. The property, however, is located within the City; therefore, the report will be submitted to the City. Further, appropriate maps showing BUOW burrow locations and/or individual BUOW sightings must be included in the report.

Preconstruction Surveys: must be conducted on all subject properties containing burrows or suitable habitat (based on Step I: Habitat Assessment) whether owls were detected or not within 30 days prior to ground disturbance to avoid direct take of BUOW (MSHCP Species – Specific Objective 6).

CNDDB Query

The State of California maintains the *Natural Diversity Data Base* ("CNDDB"), which is a computerized inventory of information on the location of California rare, threatened, endangered, and otherwise sensitive plants, animals, and natural communities. Updates to the CNDDB are issued monthly. Valuable information regarding the species occurrence, population numbers, observers, occurrence dates and potential threats to the organism(s) are included for each occurrence record. TERACOR queried the *Murrieta Quadrangle* and surrounding quadrangles specifically for BUOW location records. The results of that query are presented below in Section 3.0.

Soil Analysis

In accordance with the MSHCP, all biological surveys must include a description of soils present on-site. TERACOR, therefore, based our soil survey analysis on the **Natural Resources Conservation Service** ("NRCS") Web Soil Survey of the Western Riverside Area, California mapped soils on the property and the United States Department of Agriculture, Soil Survey - Western Riverside Area, California. Soil types present on the property are presented below in Section 3.0.

Vegetation Classifications

Literature reviewed from which plant names and identifications, vegetation communities and associations, and relevant descriptions were derived include: *The Jepson Manual, Vascular Plants of California - Second Edition* (Baldwin et. al. 2012), the CDFW's *California Natural Community List* (2021), and *A Manual of California Vegetation - Second Edition* (Sawyer, Keeler-Wolf and Evens 2009). A complete list of references has been included as Appendix D.

Field Visits

TERACOR Principal S. Reed, conducted a Step II, Part A Focused Burrow Survey on 11 April 2022 to obtain G.P.S. locations of all potentially suitable burrows. Mr. Reed conducted the Step II, Part B Focused Burrowing Owl Survey on 11 April, 27 April, 09 May, and 24 May 2022 due to the known presence of suitable habitat and potentially suitable burrows.

Weather conditions during the survey dates were favorable for detection of the species and are presented in *Table 1 - Meteorological Data*, presented below.

Table 1 - Meteorological Data

Date	Surveyors	Time of Survey		Temperature (°F)		Percent Cloud Cover		Wind Speed (mph)		Annual Precipitation to Date (inches)
		Start	End	Start	End	Start	End	Start	End	
Focused Surveys										
11 April 2022	S. Reed	0910	1130	59	66	80	80	3-7	5-9	8.89
27 April 2022	S. Reed	0800	0900	58	62	0	0	4-8	5-8	9.12
09 May 2022	S. Reed	0900	1000	60	64	partly cloudy	partly cloudy	4-8	3-9	9.12
24 May 2022	S. Reed	0700	0830	57	62	0	0	3-5	3-7	9.12

Source: TERACOR field investigators
*Annual precipitation data was obtained from http://weathercurrents.com/murrieta. The annual precipitation season extends from July 1 to June 30.

Fieldwork was conducted on foot through the entire site at transects spaced at approximately 10 meters apart (no more than 30 feet). *Exhibit 3 – Transect Locations*, attached, depicts TERACOR field personnel's 2022 recorded squirrel burrow and primary transect locations using a GPS device. Faunal and floral species present were identified in the field and recorded by S. Reed. All open areas of the property were considered suitable habitat for BUOW; the residential structure, dilapidated buildings and dense ornamental vegetation were not surveyed.

3.0 Results

Fauna

TERACOR field personnel detected avian, mammal, and reptilian species during focused surveys on-site.

Avian species detected included, but were not limited to, mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), bushtit (*Psaltriparus minimus)*, house sparrow (*Passer domesticus*), black phoebe (*Sayornis nigricans*), northern mockingbird (*Mimus polyglottos),* lesser goldfinch (*Spinus psaltria*), California scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos)*, wrentit (*Chamaea fasciata*), California towhee (*Melozone crissalis*), and Anna's hummingbird (*Calypte anna*).

Mammals detected included California ground squirrel (*Ostospermophilus beecheyi),* dusky-footed woodrat (*Neotoma fuscipes*) (nest), and Audubon's cottontail (*Sylvilagus audubonii).*

Southern Pacific rattlesnake (*Crotalus oreganus helleri*) was found to be present on-site. Western fence lizard (*Sceloporus occidentalis*) was also commonly detected.

A complete list of faunal species detected on-site is provided in Appendix A – Faunal Species Observed.

Vegetation

Geographically, the property is located within the California Floristic Province Southwestern California region, specifically in the South Coast subregion. The South Coast subregion extends along the Pacific Coast from Point Conception to Mexico.

Despite disturbances on-site, there are natural vegetation alliances present on the property. Designations for these habitat elements and their respective California Natural Community Codes ("CaCodes") have been described in the following text. Vegetation is depicted in the attached *Exhibit 4 - Vegetation Alliances*, which includes acreage totals for each vegetation alliance identified.

Riparian Vegetation

There are no functional riparian communities on the site. There are several scattered elderberry shrubs (considered by some to be trees) but these elderberries are not stream-associated on this property. Additionally, according to the U.S. Army Corps of Engineers' *List of Plants Which Occur in Wetlands*, mulefat can be found in wet areas 50% of the time, and in upland areas 50% of the time (i.e., facultative species). In this case there are no riparian areas on the site.

Upland Vegetation

Upland Mustards/Fiddleneck Fields (MUS/FID) (CaCode 42.011.05/42/011.03): This is the most common alliance mapped on-site. The total acreage is 7.94 acres. Mostly comprised of non-native grasses and weeds, there were also native herbaceous plants such as popcorn flower (*Amskinkia* sp.), vinegarweed (*Trichostema lanceolatum*), and stinknet (*Oncosiphon piluliferum*). This alliance comprised almost eight (8) acres on the property, and was considered generally suitable for BUOW.

California Buckwheat Scrub (CABU) (CaCode 32.040.02): CABU is scattered mostly in and around the former blueline drainage and in small cells along the east property line. This upland plant alliance can sometimes be present in BUOW habitat in low densities, but it cannot be dense which would not allow BUOW to detect lurking predators. This alliance also contained a good deal of California-aster (*Corethrogyne filaginifolia*). CABU comprises 0.72 acre on-site.

Narrowleaf Goldenbush Scrub (GB) (CaCode 38.125.01): TERACOR mapped this alliance as a separate alliance, although it is represented in only 0.002 acre on-site. Formerly, before current mapping methods suggested by RCA Guidelines and the California Department of Fish and Wildlife, we would have grouped goldenbush with buckwheat and brittlebush into one mixed sage scrub community type. It can grow in dense patches and is not considered the type of habitat that BUOW can successfully utilize.

Coyote Brush Scrub (CBS) (CaCode 32.060.00): Coyote brush scrub is found in a number of small cells concentrated in areas where drainage is somewhat impeded and soils can retain moisture. As an upland plant that favors disturbed conditions, it generally will not grow in creeks and depressions and similar areas that are seasonally inundated, as it requires moist but not wet soil, therefore it is considered an upland plant community. The total area of coyote brush scrub on-site is 0.07 acre.

Mulefat Thickets (MT) (CaCode 63.510.00): Mulefat thicket comprises 0.05 acre of area on the property. It is mostly located in two locations on-site; 1) at the base of a human-constructed 2:1 along the Wildomar Trail right-of-way, and also at the base of another slope found on the west property line. Impeded drainage along the base of the slope cannot move past the block wall constructed behind homes along this westerly edge of the property, and there was no evidence of southward flow. We assumed therefore that substrates absorb the rain that falls on the slope, keeping the slope moist enough to support mulefat which is a facultative species known to occur in uplands approximately 50% of the time, and in wet areas 50% of the time.

Brittlebush Scrub (EN) (CaCode 33.030.01): Brittlebush scrub locally consists of *Encelia farinosa* and comprises only 0.013 acre on the Project site. It is common in the Wildomar area, and is always considered an upland plant community.

Blue Elderberry Stand (E) (CaCode 63.410.01): Usually elderberries grow on floodplains, or saddles between hilltops, or in ravines where soil moisture is slightly elevated but not saturated, such as on the margin of riparian woodlands and riparian scrub communities. It exists in a few small cells on-site, comprising just 0.012 acre.

Ornamental (O) (No corresponding CaCode): This area consisted of 0.58 acre. Species include pine trees (*Pinus* sp.), European olive (*Olea europaea*), domesticated pecan (*Carya illinoinensis*), and Peruvian pepper trees. These ornamental trees are found most densely around the residential structure, but are also scattered around the site.

Disturbed (D) (No corresponding CaCode): Though almost all the site exhibits some degree of disturbance, areas that cannot be considered habitat of any type include the residential structures, driveways, and dilapidated farm structures. This area comprised 0.73 acre.

CNDDB Query Results

The CNDDB query of the *Wildomar, Romoland, Lake Elsinore and Murrieta* Quadrangles resulted in numerous recorded sightings of BUOW within the four (4) quadrangles. The nearest sighting to the subject site occurred 0.2 mile south of the intersection of Garden Street and Corydon Road. The sighting was

approximately 4.0 miles northwest of the project site; two (2) BUOW adults were observed utilizing a broken concrete pipe structure as a burrow on 18 June 2007. This recorded sighting nearest to the subject property is depicted in the attached *Exhibit 5 – Burrowing Owl CNDDB Locations*.

Soil Analysis Results

The property is historically comprised of three (3) soil types, according to the NRCS *Web Soil Survey: Western Riverside Area, California*. It should be noted that areas on which fill has been placed are now overcovered with unconsolidated fill. Other areas on-site have been modified to support historic uses. In these disturbed and over-covered areas native soils are not present at the surface. The soils historically present on the property are as follows:

Table 2 - Soil Types

Code	Soil Type	Location
HcC	Hanford coarse sandy loam, 2 to 8 percent slopes	This soil type follows the orientation of the former blueline stream on-site. The coarse sand likely reflects the depositional nature of the former streamcourse. It would be highly porous and not prone to ponding. Course sandy loams do not as structurally cohesive or more dense soils, therefore, burrows would be expected to be less stable.
MnD2	Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded	Found only in the northeast corner of the property, this soil may not persist on the site. Sandy loams are generally quite porous and easily excavated by ground-dwelling animals.
PID	Placentia fine sandy loam, 5 to 15 percent slopes	This type of soil would be suitable for burrowing animals, and would be unlikely to pond or retard the percolation of water. It was naturally present over most of site.

All native soils within the property could be considered structurally suitable for occupation by BUOW and other burrowing organisms. The attached *Exhibit 6 – Soils* depicts the soils types described above and their historical locations across the property.

Survey Results

On-Site

No BUOW were observed during the course of the four (4) focused surveys performed in 2022. TERACOR detected numerous California ground squirrel burrows and burrow complexes on the property as depicted in the attached *Exhibit 8 – Suitable Burrow Locations*. Burrows and burrow complexes were generally concentrated in the southern portion of the subject site. No BUOW utilization sign, however, was detected within or near any of these burrows. Photographs were taken during TERACOR's field surveys, and are depicted in the attached *Exhibit 7 – Site Photos.*

TERACOR also detected other small mammal burrows throughout the property; however, these burrows appeared to be utilized by deer mice (*Peromyscus* sp.), pocket mice (*Chaetodipus* sp.) or kangaroo rats (*Dipodomys* sp.) and were considered too small to be utilized by BUOW.

The G.P.S. locations of the potential owl burrows detected are presented in *Appendix C – G.P.S. Locations*.

Off-Site

TERACOR did not obtain permission to transect or visually survey adjacent properties for BUOW. The property to the east across Wildomar Trail is developed and could not support BUOW. The properties to the south and west of the subject site are comprised respectively of a commercial center and an existing residential tract, therefore, they were not considered suitable for BUOW and were not investigated.

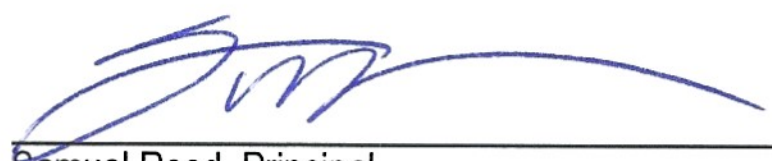
4.0 Conclusion and Recommendations

We detected no evidence that indicated BUOW inhabit the site or general area. No BUOW were observed during TERACOR's 2022 field surveys on 16 March, 11 April, 27 April, 09 May, and 24 May 2022. Evidence of active fossorial mammal utilization was common throughout the property. These burrows lacked any BUOW sign. No BUOW were detected in 2022.

In accordance with MSHCP requirements, however, TERACOR recommends conducting a pre-construction survey within 30 days prior to ground disturbance since suitable habitat is present on-site.

A list of references is presented in Appendix D – References.

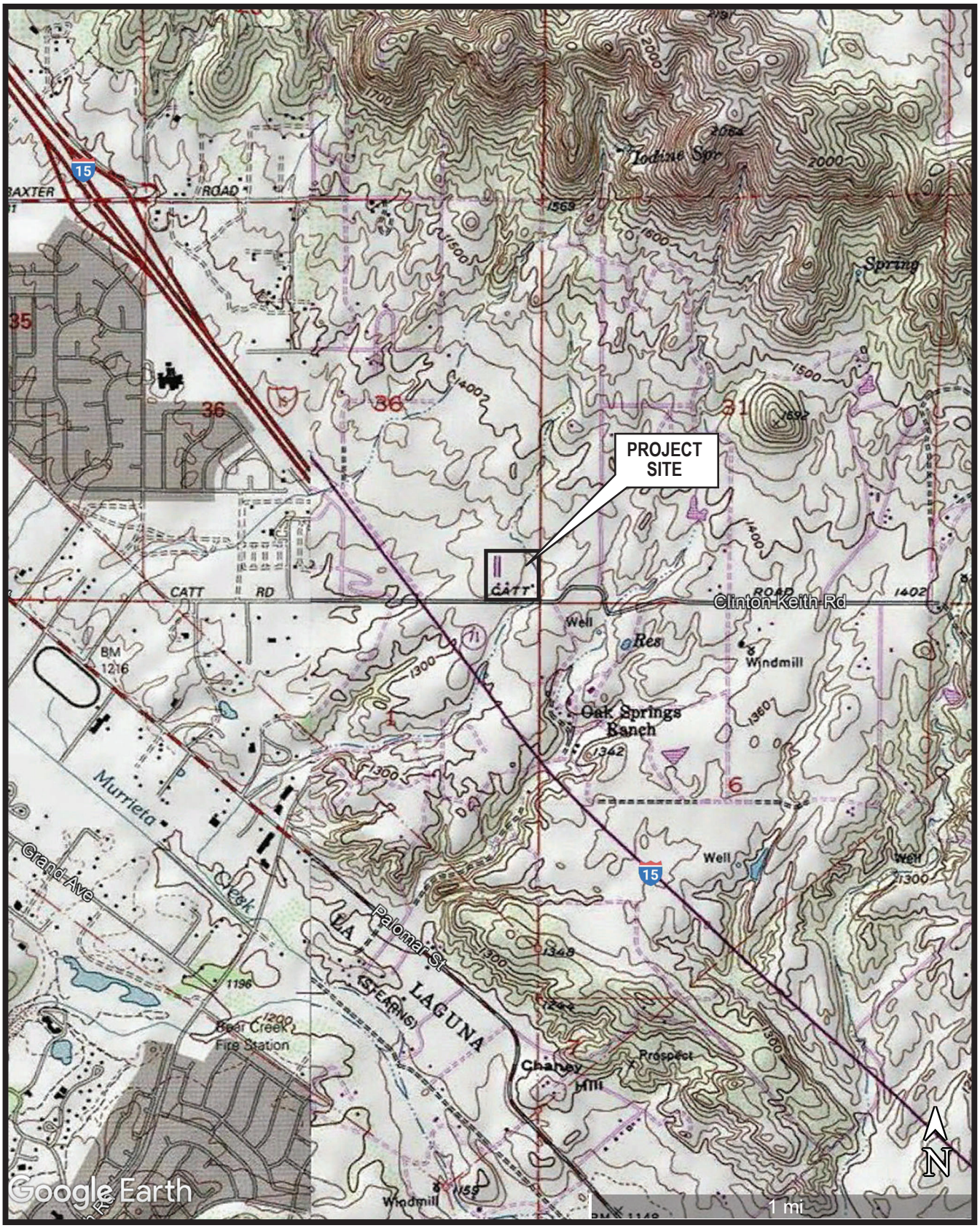
CERTIFICATION: I hereby certify that the statements and exhibits contained in this report present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge.



20 June 2022

Samuel Reed, Principal
U.S. Fish & Wildlife Service Recovery Permit No. 839896-6
Scientific Collecting Permit No. 002267

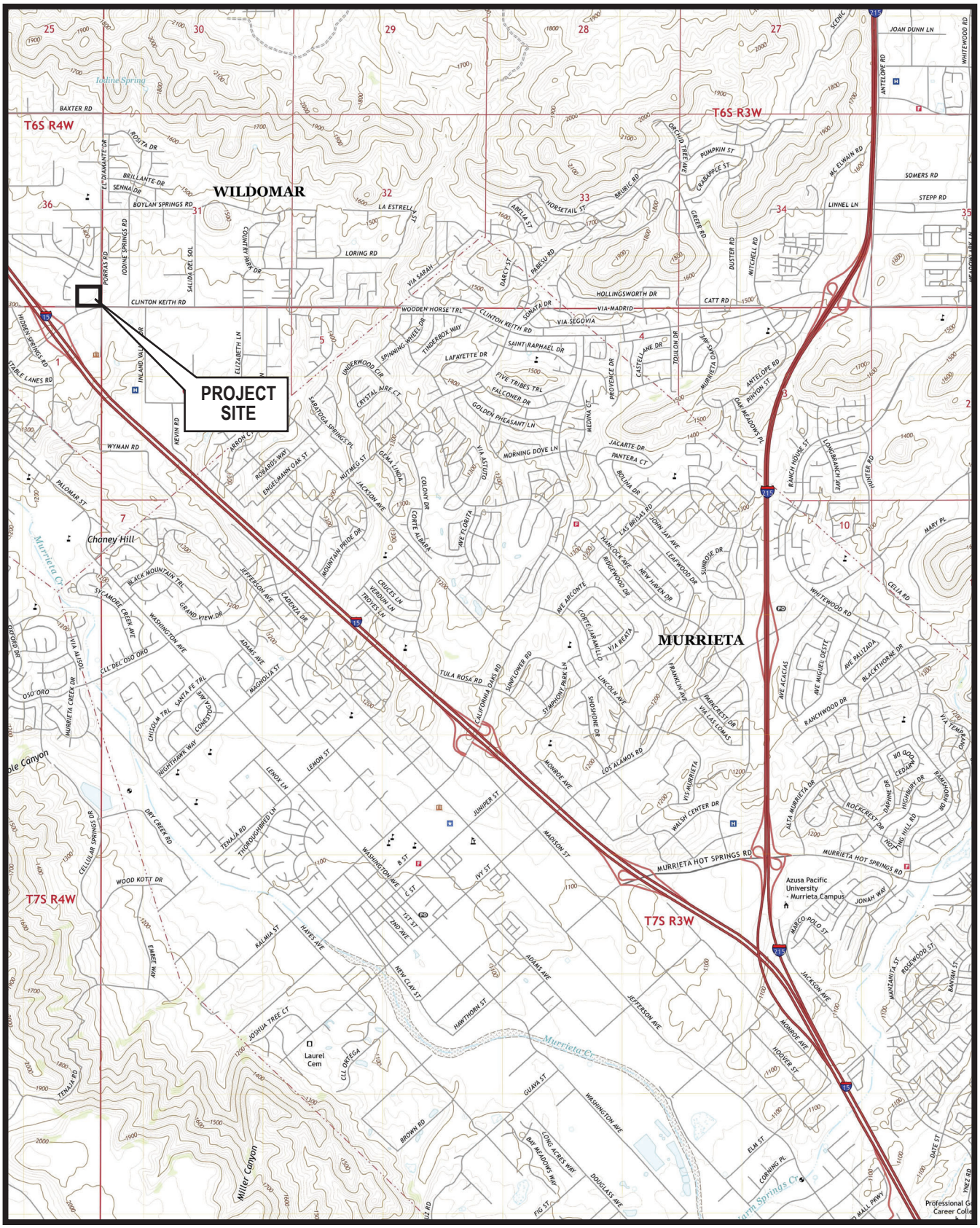
Date



TERACOR RESOURCE MANAGEMENT

Wildomar Crossroads
Source: Murrieta USGS Quadrangle

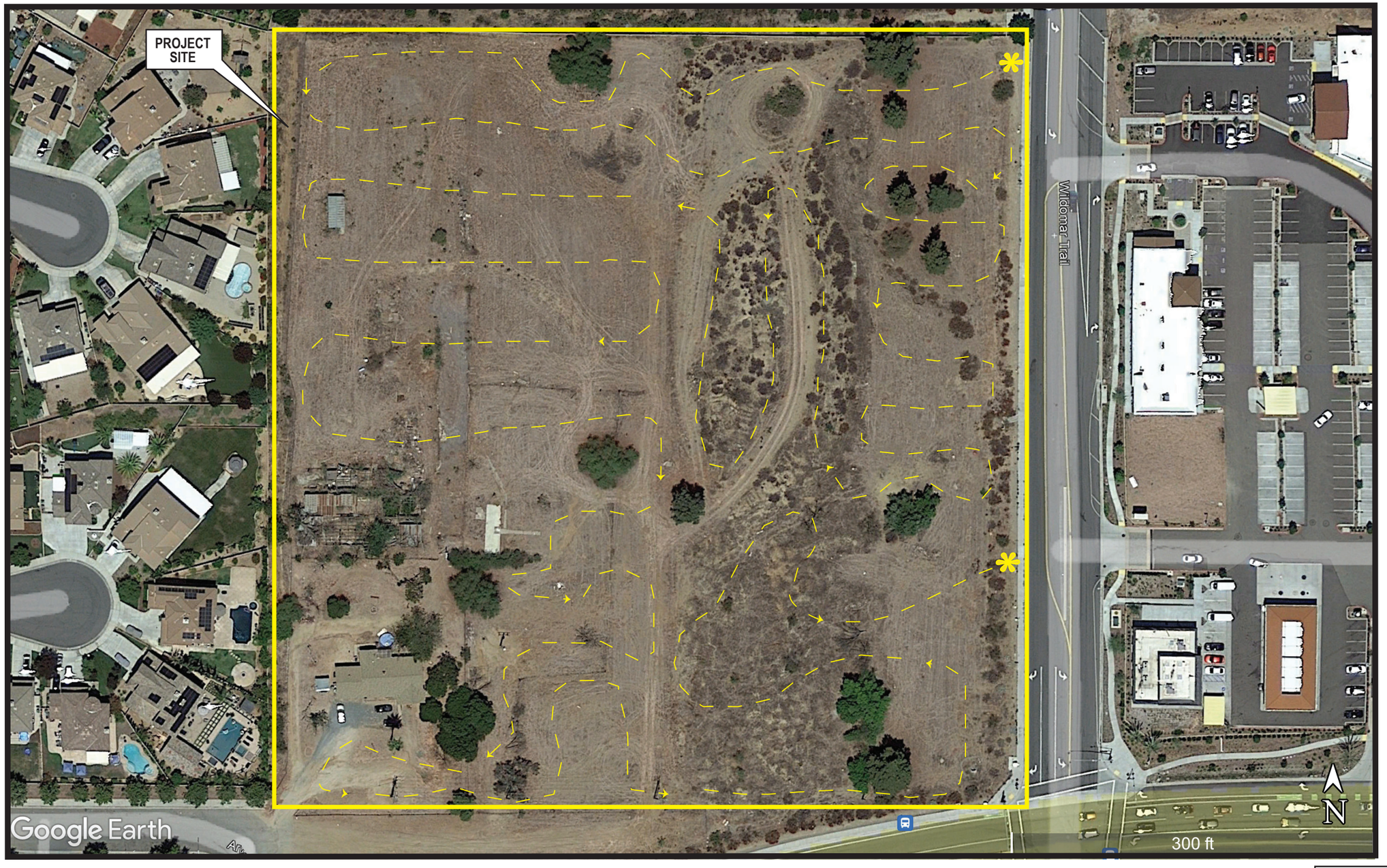
Exhibit 1
USGS Topo -
Pre-disturbance



TERACOR RESOURCE MANAGEMENT

Wildomar Crossroads
Source: Murrieta USGS Quadrangle

Exhibit 2
USGS Topo - Current



LEGEND

- Approximate TERACOR Transect

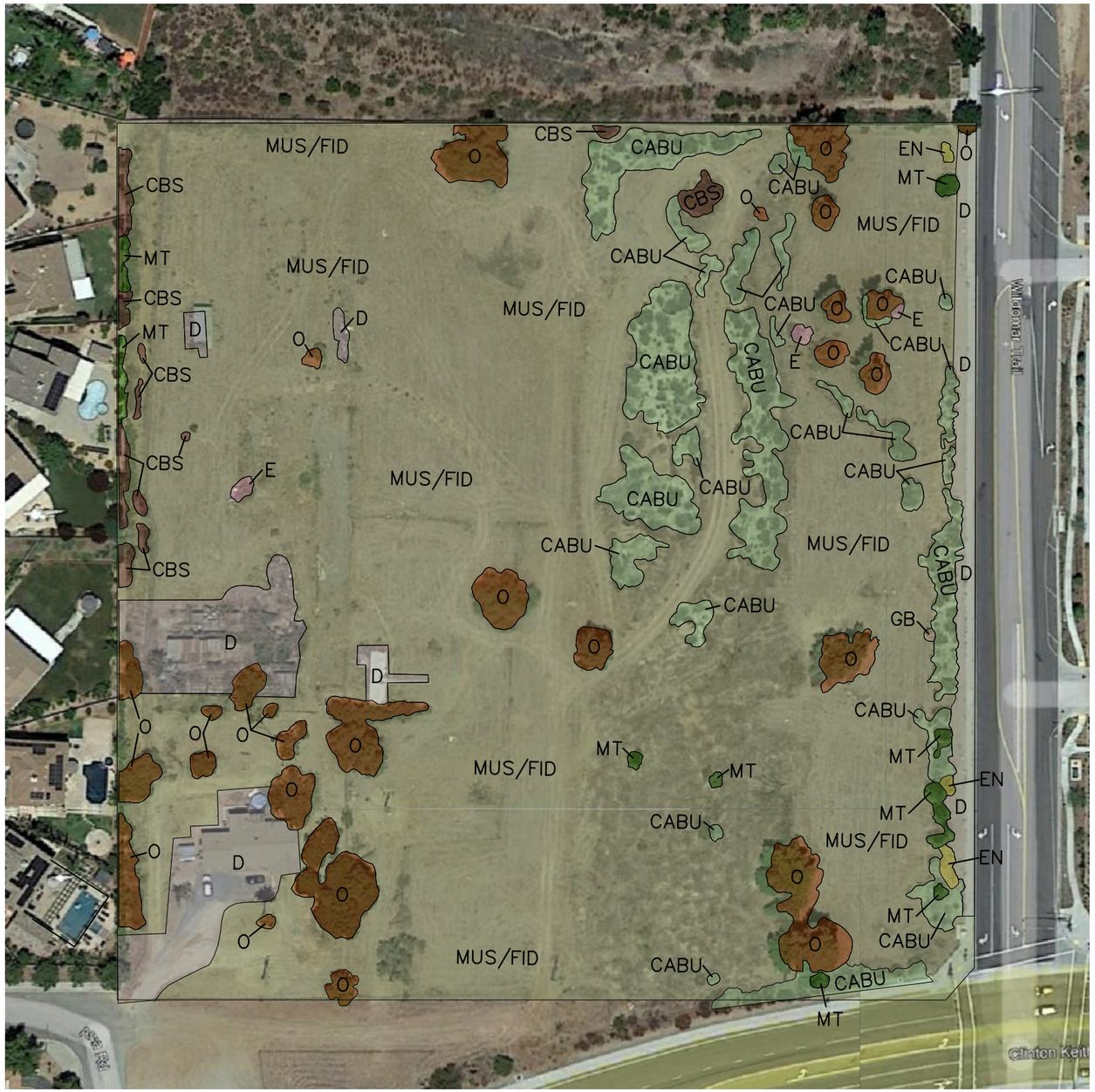
TERACOR RESOURCE MANAGEMENT

Wildomar Crossroads
Source: Google Earth Pro

Exhibit 3
Survey Transects

LEGEND

COLOR	VEGETATION ALLIANCES	CA-CODE	ACRES
	GB - NARROWLEAF GOLDENBUSH SCRUB	38.125.01	0.002
	CABU - CALIFORNIA BUCKWHEAT SCRUB	32.040.02	0.72
	MUS / FID - UPLAND MUSTARDS / FIDDLENECK FIELD	42.011.05 / 42.110.03	7.94
	CBS - COYOTE BRUSH SCRUB	32.060.00	0.07
	MT - MULEFAT THICKETS	63.510.00	0.05
	EN - BRITTLEBUSH SCRUB	33.030.01	0.013
	E - BLUE ELDERBERRY STAND	63.410.01	0.012
	D - DISTURBED	NO CA-CODE	0.73
	O - ORNAMENTAL / NON-NATIVE TREES	NO CA-CODE	0.58
		TOTAL	10.12



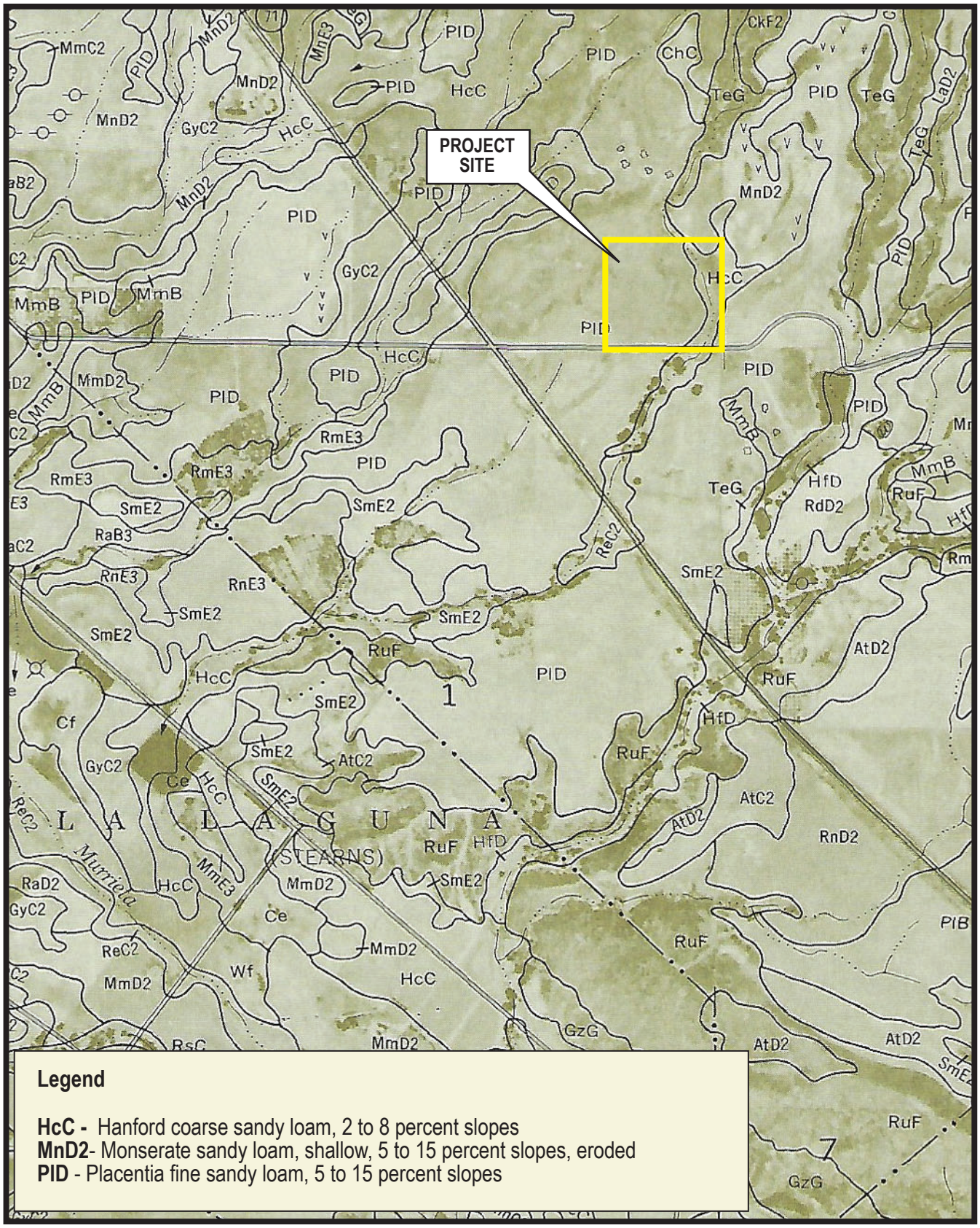
GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

TERACOR
RESOURCE MANAGMENT
41635 Enterprise Cir. North, Suite B
TEMECULA, CALIFORNIA 92590

4M ENGINEERING AND DEVELOPMENT, INC.
41635 Enterprise Circle N. - Suite B
Temecula, California 92590
TEL: (951) 296-3466
KIRK R. MEDEIROS R.C.E. 86558

EXHIBIT 4

VEGETATION ALLIANCES



Legend

HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
MnD2- Monserate sandy loam, shallow, 5 to 15 percent slopes, eroded
PID - Placentia fine sandy loam, 5 to 15 percent slopes

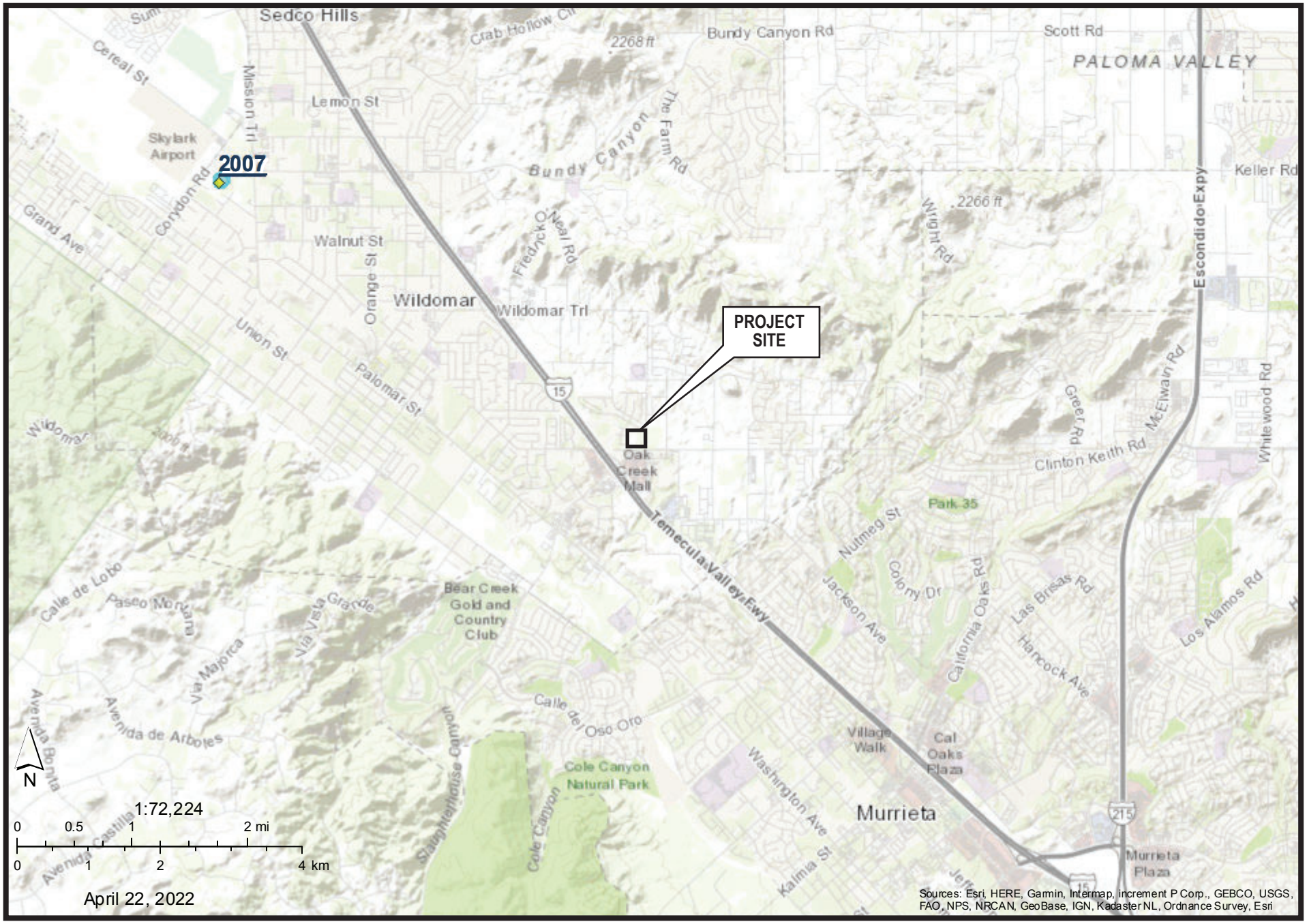
TERACOR RESOURCE MANAGEMENT

North

Wildomar Crossroads
Source: USDA Western Riverside Area Soil Survey

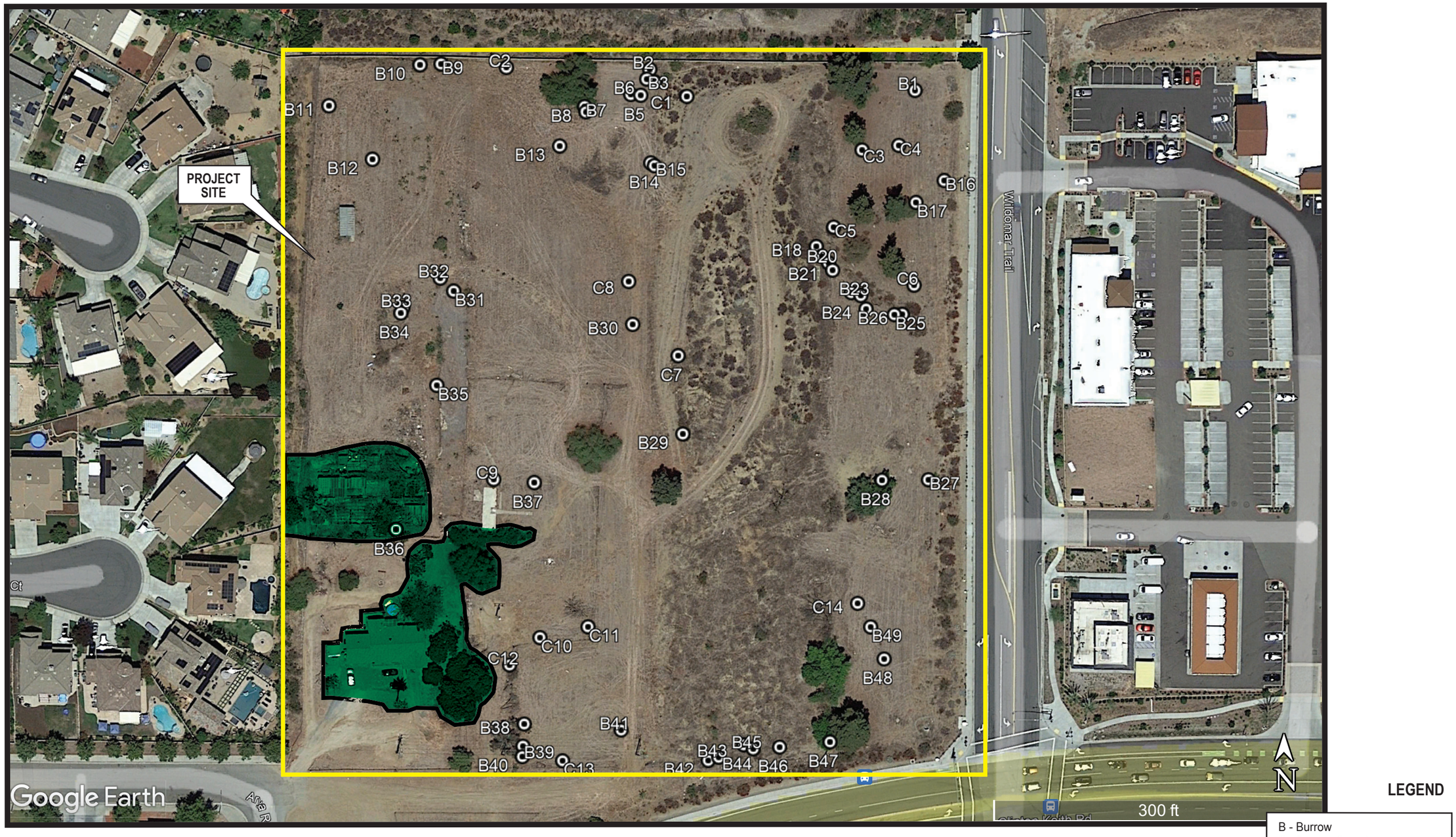
0 1/2 Mile

Exhibit 5
Soils



Wildomar Crossroads
Source: CDFW CNDDB

Exhibit 6
CNDDB BUOW Locations



TERACOR RESOURCE MANAGEMENT

Wildomar Crossroads
Source: Google Earth Pro

Exhibit 7
Suitable Burrow Locations



Photo 1 - View of property taken from the northwest corner of the site.



Photo 2 - Southwest corner of site, facing west.



Photo 3 - The site is heavily disturbed. A large berm comprised of earthen fill material was placed in the center of the site. Subsequent disturbances include these spoils piles dumped in the foreground, and disking where feasible for weed control.



Photo 4 - Northeast quadrant of property facing north. Emplaced fill which comprises the central hillock on-site (to the left of the photo) has been present long enough that a CA Buckwheat Scrub alliance has formed on much of it.

Appendix A
Faunal Species Observed

Birds

Birds were observed with 10x40 binoculars. Birds were identified following *The Sibley Field Guide to Birds 2nd Edition* (2014), and updated to conform to changes in nomenclature consistent with the most recent American Ornithological Society checklist. Non-native species have been noted below with an asterisk (*) following the scientific name.

Scientific Name	Common Name
Aegithalidae	**Bushtits**
Psaltriparus minimus	bushtit
Columbidae	**Pigeons and Doves**
Zenaida macroura	mourning dove
Corvidae	**Crows, Jays and Magpies**
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Fringillidae	**Finches**
Haemorhous mexicanus	house finch
Spinus psaltria	lesser goldfinch
Mimidae	**Mockingbirds, Thrashers**
Mimus polyglottos	northern mockingbird
Passerellidae	**New World Sparrows**
Melozone crissalis	California towhee
Passeridae	**Old World Sparrows**
*Passer domesticus**	house sparrow
Sturnidae	**Starlings**
*Sturnus vulgaris**	European starling
Sylviidae	**Gnatcatchers**
Chamaea fasciata	wrentit

Scientific Name	Common Name
Trochilidae	**Hummingbirds**
Calypte anna	Anna's hummingbird
Tyrannidae	**Flycatchers**
Sayornis nigricans	black phoebe

Mammals

Species seen or detected via sign are listed. Nomenclature follows *Peterson Field Guides: Mammals of North America* (Reid 2006). Non-native species have been noted below with an asterisk (*) following the scientific name.

Scientific Name	Common Name
Leporidae	**Rabbits and Hares**
Sylvilagus audubonii	Audubon's cottontail
Muridae	**Rats and Mice**
Neotoma fuscipes	dusky-footed woodrat
Sciuridae	**Squirrels, Chipmunks and Marmots**
Ostospermophilus beecheyi	California ground squirrel

Amphibians and Reptiles

Identification of amphibians and reptile species were made visually, with nomenclature following R.C. Stebbins (2003) *A Field Guide to Western Reptiles and Amphibians,* third edition, updated to conform to the most recent changes in nomenclature utilizing The Center for North American Herpetology.

Scientific Name	Common Name
Reptiles	
Lizards	
Phrynosomatidae	**Zebra-tailed, Fringe-toed, Spiny, Tree, Side-Blotched, and Horned Lizards**
Sceloporus occidentalis	western fence lizard
Snakes	
Viperidae	**Vipers**
Crotalus oreganus helleri	southern Pacific rattlesnake

Appendix B
Floral Species Observed

Vegetation List

The species listed below were detected within the subject property during field surveys performed in 2022. Field identifications are a composite list prepared by S. Reed and M. Long. Scientific names follow *The Jepson Manual, Vascular Plants of California - Second Edition*, 2012, and have been updated following the Jepson Online Interchange for California Floristics database (2014). Non-native species have been noted below with an asterisk (*) following the scientific name. Exotic trees were not systematically included in the list, although some well-known species are.

Scientific Name	Common Name
Adoxaceae	**Muskroot Family**
Sambucus nigra	black elderberry
Anacardiaceae	**Sumac Family**
*Schinus molle**	Peruvian pepper tree
Apiaceae	**Carrot Family**
Daucus pusillus	rattlesnake weed
Apocynaceae	**Dogbane Family**
*Nerium oleander**	oleander
*Vinca major**	greater periwinkle
Arecaceae	**Palm Family**
*Washingtonia robusta**	Mexican fan palm
Asteraceae	**Sunflower Family**
Achillea millefolium	common yarrow
Artemisia californica	California sagebrush
Baccharis pilularis	coyote brush
Baccharis salicifolia	mulefat
*Centaurea solstitialis**	yellow star-thistle
Corethrogyne filaginifolia	California-aster
Deinandra fasciculata	fascicled tarplant
Encelia farinosa	brittlebush
Ericameria linearifolia	narrowleaf goldenbush
Erigeron canadensis	horseweed
Heterotheca grandiflora	telegraph weed
*Lactuca serriola**	prickly lettuce

Scientific Name	Common Name
Pseudognaphalium californicum	ladies' tobacco
*Oncosiphon piluliferum**	stinknet
*Taraxacum officinale**	common dandelion
Boraginaceae	**Borage Family**
Amsinckia intermedia	common fiddleneck
Amsinckia menziesii	Menzies' fiddleneck
Cryptantha intermedia	popcorn flower (common)
Heliotropium curassavicum	salt heliotrope
Pectocarya sp.	popcorn flower
Brassicaceae	**Mustard Family**
*Brassica nigra**	black mustard
*Hirschfeldia incana**	short pod mustard
*Sisymbrium orientale**	Oriental mustard
Chenopodiaceae	**Goosefoot Family**
*Atriplex semibaccata**	Australian saltbush
Fabaceae	**Legume Family**
Acmispon glaber	deerweed
*Melilotus officinalis**	sweetclover
Geraniaceae	**Geranium Family**
*Erodium cicutarium**	red-stem filaree
Juglandaceae	**Walnut Family**
*Carya illinoinensis**	pecan
Lamiaceae	**Mint Family**
*Marrubium vulgare**	white horehound
Trichostema lanceolatum	vinegarweed
Meliaceae	**Mahogany Family**
*Melia azedarach**	China berry
Myrtaceae	**Myrtle Family**
*Eucalyptus sideroxylon**	red iron bark
Oleaceae	**Olive Family**
*Fraxinus uhdei**	shamel ash
*Olea europaea**	European olive

Scientific Name	Common Name
Onagraceae	**Evening Primrose Family**
Camissoniopsis micrantha	small-flowered evening-primrose
Pinaceae	**Pine Family**
*Pinus eldarica**	Afghan pine
Poaceae	**Grass Family**
*Bromus diandrus**	ripgut grass
Bromus madritensis ssp. *rubens**	red brome
*Bromus tectorum**	cheat grass
*Hordeum murinum **	foxtail barley
Melica imperfecta	onion grass
Polygonaceae	**Buckwheat Family**
Eriogonum davidsonii	Davidson's buckwheat
Eriogonum fasciculatum	California buckwheat
*Rumex crispus**	curly dock
Salicaceae	**Willow Family**
Salix laevigata	red willow
Solanaceae	**Nightshade Family**
Datura wrightii	jimson weed
*Nicotiana glauca**	tree tobacco

Appendix C
Burrow UTM Locations

UTM coordinates were obtained utilizing a *Garmin GPSmap 64s* handheld unit.

Feature	No. of Burrows	Datum/UTM Zone	Easting	Northing
Burrows				
Burrow No. 1	1	NAD83 11S	477629	3717777
Burrow No. 2	1	NAD83 11S	477555	3717783
Burrow No. 3	1	NAD83 11S	477555	3717780
Burrow No. 4	1	NAD83 11S	477557	3717780
Burrow No. 5	1	NAD83 11S	477553	3717776
Burrow No. 6	1	NAD83 11S	477550	3717776
Burrow No. 7	1	NAD83 11S	477537	3717773
Burrow No. 8	1	NAD83 11S	477538	3717771
Burrow No. 9	1	NAD83 11S	477498	3717784
Burrow No. 10	1	NAD83 11S	477492	3717784
Burrow No. 11	1	NAD83 11S	477467	3717772
Burrow No. 12	1	NAD83 11S	477479	3717758
Burrow No. 13	1	NAD83 11S	477530	3717762
Burrow No. 14	1	NAD83 11S	477556	3717757
Burrow No. 15	1	NAD83 11S	477557	3717756
Burrow No. 16	1	NAD83 11S	477638	3717752
Burrow No. 17	1	NAD83 11S	477630	3717746
Burrow No. 18	1	NAD83 11S	477602	3717734
Burrow No. 19	1	NAD83 11S	477603	3717731
Burrow No. 20	1	NAD83 11S	477605	3717730
Burrow No. 21	1	NAD83 11S	477606	3717728
Burrow No. 22	1	NAD83 11S	477612	3717721
Burrow No. 23	1	NAD83 11S	477614	3717721
Burrow No. 24	1	NAD83 11S	477616	3717717
Burrow No. 25	1	NAD83 11S	477624	3717715
Burrow No. 26	1	NAD83 11S	477626	3717715
Burrow No. 27	1	NAD83 11S	477633	3717669
Burrow No. 28	1	NAD83 11S	477620	3717669
Burrow No. 29	1	NAD83 11S	477564	3717682
Burrow No. 30	1	NAD83 11S	477551	3717712
Burrow No. 31	1	NAD83 11S	477501	3717722
Burrow No. 32	1	NAD83 11S	477497	3717725
Burrow No. 33	1	NAD83 11S	477487	3717717
Burrow No. 34	1	NAD83 11S	477486	3717716

Feature	No. of Burrows	Datum/UTM Zone	Easting	Northing
Burrow No. 35	1	NAD83 11S	477496	3717696
Burrow No. 36	1	NAD83 11S	477485	3717656
Burrow No. 37	1	NAD83 11S	477523	3717669
Burrow No. 38	1	NAD83 11S	477520	3717601
Burrow No. 39	1	NAD83 11S	477519	3717595
Burrow No. 40	1	NAD83 11S	477519	3717592
Burrow No. 41	1	NAD83 11S	477547	3717599
Burrow No. 42	1	NAD83 11S	477571	3717590
Burrow No. 43	1	NAD83 11S	477574	3717591
Burrow No. 44	1	NAD83 11S	477581	3717595
Burrow No. 45	1	NAD83 11S	477584	3717593
Burrow No. 46	1	NAD83 11S	477592	3717594
Burrow No. 47	1	NAD83 11S	477606	3717596
Burrow No. 48	1	NAD83 11S	477621	3717619
Burrow No. 49	1	NAD83 11S	477617	3717628
Burrow Complexes				
Complex No. 1	3	NAD83 11S	477566	3717775
Complex No. 2	3	NAD83 11S	477516	3717783
Complex No. 3	4	NAD83 11S	477615	3717761
Complex No. 4	5	NAD83 11S	477625	3717762
Complex No. 5	4	NAD83 11S	477607	3717740
Complex No. 6	5	NAD83 11S	477629	3717723
Complex No. 7	3	NAD83 11S	477563	3717704
Complex No. 8	5	NAD83 11S	477549	3717724
Complex No. 9	4	NAD83 11S	477512	3717670
Complex No. 10	4	NAD83 11S	477524	3717625
Complex No. 11	8	NAD83 11S	477538	3717628
Complex No. 12	3	NAD83 11S	477516	3717618
Complex No. 13	5	NAD83 11S	477530	3717590
Complex No. 14	4	NAD83 11S	477614	3717634

Appendix D
References

Baldwin, B.G., Douglas H. Goldman, David J. Keil, Robert Patterson, and Thomas J. Rosatti. 2012. *The Jepson Manual, Vascular Plants of California*. U.C. Press, 1400 pages.

Boyd, S., Roberts, F., Sanders, A and White, S., *The Vascular Plants of Western Riverside County, California – An Annotated Checklist*, 2004.

California Burrowing Owl Consortium, *Burrowing Owl Survey Protocol and Mitigation Guidelines*, April 1993, 15 pages.

California Department of Fish and Wildlife, *California Natural Community List*, Vegetation Classification and Mapping Program, Sacramento, California, January 2018.

California Department of Fish and Wildlife, California Natural Diversity Database, *Natural Diversity Data Base Elements* from *Wildomar, California Quadrangle*, and surrounding quadrangles, Biogeographic Data Branch, Information dated April 1, 2018.

California Department of Fish and Wildlife, Natural Diversity Database. November 2018. *Special Animals List*. Periodic publication. 67 pages.

California Department of Fish and Wildlife, April 10, 2008. Table 1 California Bird Species of Special Concern, 2 pages.

County of Riverside Environmental Programs Department, 2006. *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area*, 4 pages. http://www.tlma.co.riverside.ca.us/epd/documents/Burrowing_Owl_Survey_Instructions.pdf

Google Inc., 2022. *Google Earth Pro*, version 7.3.0.3832.

Google Inc., 2022. *Google Earth Pro Earth Point Topo*, version 7.3.1.4507.

Jepson Herbarium. 2014. *The Jepson Online Interchange for California Floristics*. University of California, Berkeley. Updated July 01, 2014. http://ucjeps.berkeley.edu/interchange/index.html

Sibley, D. A. 2014, *The Sibley Guide to Birds, 2nd Edition*, A. Knopf, New York, 598 pages.

Soil Conservation Service (US Department of Agriculture), 1971. *Soil Survey of Western Riverside Area, California*. 155 pages.

Stebbins, R.C., 2003. *Peterson Field Guides: Western Reptiles and Amphibians*. Third Edition. Houghton Mifflin Company.

U.S. Army Corps of Engineers, 2016. *State of California 2016 Wetland Plant List* Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17.

United States Department of Agriculture, *Soil Survey - Western Riverside Area, California*, Soil Conservation Service (Resource Conservation Service), November 1971, 157 pages and 214 sheets.

United States Department of Agriculture, *Web Soil Survey - Western Riverside Area, California*, National Cooperative Soil Survey, Natural Resources Conservation Service, http://websoilsurvey.nrcs.usda.gov

United States Department of the Interior | U.S. Geological Survey, Supported by the National Cooperative Geologic Mapping Program, *topoView*, *Murrieta Quadrangle, California – Riverside County, 7.5-Minute Series, 2022*, https://ngmdb.usgs.gov/topoview

United States Geological Survey. 1953. Photo revised 1979. *Murrieta, California Quadrangle*. A U.S.G.S. Topographic Quadrangle Map, one sheet.

United States Geological Survey. 1953. Photo revised 1988. *Wildomar, California Quadrangle*. A U.S.G.S. Topographic Quadrangle Map, one sheet.

Weather Currents Website: http://weathercurrents.com/murrieta

Western Riverside County Regional Conservation Authority. *MSHCP Information Map.* https://wrcrca.maps.arcgis.com/apps/webappviewer

Western Riverside County Regional Conservation Authority. *Multiple Species Habitat Conservation Plan*. County of Riverside. 17 June 2003.

Appendix 5

Cultural Resources Assessment

A CULTURAL RESOURCES ASSESSMENT FOR THE WILDOMAR TRAIL PROJECT

CITY OF WILDOMAR, RIVERSIDE COUNTY, CALIFORNIA

APNs 376-410-015 to -017 and -021

Project Site Location: Section 36, Township 6 South, Range 4 West, San Bernardino Base and Meridian), as shown on the *Murrieta* USGS Quadrangle Topographic Map

Prepared on Behalf of:

EPD Solutions, Inc.
2 Park Plaza, Suite 1120
Irvine, California 92614
(949) 794-1180

Prepared for:

City of Wildomar
23873 Clinton Keith Road, Suite 201
Wildomar, California 92595
(951) 677-7751

Prepared by:

Summer J. Forsman and
Brian F. Smith, M.A., Principal Investigator
Brian F. Smith and Associates, Inc.
14010 Poway Road, Suite A
Poway, California 92064
(858) 679-8218

November 24, 2021

Fieldwork Performed: October 13, 2021
Key Words: 10.056 acres; archaeological survey; negative; monitoring of grading recommended

Archaeological Database Information

Authors:	Brian F. Smith, M.A., Principal Investigator and Summer J. Forsman
Prepared by:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064 (858) 679-8218
Report Date:	November 24, 2021
Report Title:	A Cultural Resources Assessment for the Wildomar Trail Project, City of Wildomar, Riverside County, California
Prepared on Behalf of:	EPD Solutions, Inc. 2 Park Plaza, Suite 1120 Irvine, California 92614 (949) 794-1180
Prepared for:	City of Wildomar 23873 Clinton Keith Road, Suite 201 Wildomar, California 92595 (951) 677-7751
Assessor's Parcel Numbers:	376-410-015 to -017 and -021
USGS Quadrangle:	Section 36, Township 6 South, Range 4 West, of the San Bernardino Baseline and Meridian in the U.S. Geological Survey 7.5-minute *Murrieta*, *California* Quadrangle.
Study Area:	10.056 acres
Key Words:	City of Wildomar; *Murrieta* USGS topographic quadrangle; archaeological survey program; negative; monitoring of grading recommended.

Table of Contents

Section **Page**

1.0 MANAGEMENT SUMMARY / ABSTRACT 1.0–1
1.1 Purpose of Investigation 1.0–1
1.2 Major Findings 1.0–1
1.3 Recommendation Summary 1.0–2
2.0 INTRODUCTION 2.0–1
2.1 Previous Work 2.0–1
2.2 Project Setting 2.0–1
2.3 Cultural Setting – Archaeological Perspectives 2.0–5
2.3.1 Introduction 2.0–6
2.3.2 Paleo Indian Period (Late Pleistocene: 11,500 to circa 9,000 YBP) 2.0–6
2.3.3 Archaic Period (Early and Middle Holocene: circa 9,000 to 1,300 YBP) 2.0–7
2.3.4 Late Prehistoric Period (Late Holocene: 1,300 YBP to 1790) 2.0–9
2.3.5 Protohistoric Period (Late Holocene: 1790 to Present) 2.0–10
2.3.6 Ethnohistoric Period (1769 to Present) 2.0–17
2.4 Research Goals 2.0–21
3.0 METHODOLOGY 3.0–1
3.1 Archaeological Records Search 3.0–1
3.2 Field Methodology 3.0–1
3.3 Report Preparation and Recordation 3.0–1
3.4 Native American Consultation 3.0–2
3.5 Applicable Regulations 3.0–2
3.5.1 California Environmental Quality Act 3.0–2
4.0 RESULTS 4.0–1
4.1 Records Search Results 4.0–1
4.2 Results of the Field Survey 4.0–2
5.0 RECOMMENDATIONS 5.0–1
6.0 CERTIFICATION 6.0–1
7.0 REFERENCES 7.0–1

Appendices

Appendix A – Qualifications of Key Personnel
Appendix B – Archaeological Records Search Results*
Appendix C – NAHC Sacred Lands File Search Results*
**Deleted for public review and bound separately in the Confidential Appendix*

List of Figures

Section **Page**

Figure 2.0–1 General Location Map 2.0–2
Figure 2.0–2 Project Location Map.....2.0–3
Figure 2.0–3 Site Plan 2.0–4

List of Plates

Section **Page**

Plate 4.2–1 View of the northeastern corner of the property showing disturbed areas and a stockpile of graded soil 4.0–3
Plate 4.2–2 View of the potentially historic foundation 4.0–4
Plate 4.2–3 View of the north section of the property showing the disturbed areas that have been cleared and appear to have had animals, likely horses, corralled in the past.....4.0–4
Plate 4.2–4 View of the modern residence on the west side of the property.....4.0–5

List of Tables

Section **Page**

Table 4.1–1 Archaeological Sites Located Within One Mile of the Wildomar Trail Project 4.0–1

1.0 MANAGEMENT SUMMARY/ABSTRACT

The following report describes the results of the cultural resources survey conducted by Brian F. Smith and Associates, Inc. (BFSA) for the Wildomar Trail Project. The 10.056-acre project is located northwest of the intersection of Clinton Keith Road and George Avenue within Assessor's Parcel Numbers (APNs) 376-410-015 to -017 and -021. The project is situated within Section 36, Township 6 South, Range 4 West, of the San Bernardino Baseline and Meridian in the U.S. Geological Survey 7.5-minute *Murrieta*, *California* topographic quadrangle map. The project proposes the construction of multifamily and commercial developments. BFSA conducted this study in compliance with the California Environmental Quality Act (CEQA) and the environmental guidelines of the City of Wildomar in order to locate and record any cultural resources present within the project.

The archaeological investigation of the subject property included a review of an archaeological records search performed in-house by BFSA compiled from data from the Eastern Information Center (EIC) at the University of California at Riverside (UCR) in order to assess previous archaeological studies and identify any previously recorded sites within the project boundaries, or in the immediate vicinity. An updated records search from the EIC has been requested, but due the limitations imposed by the evolving circumstances related to the COVID-19 pandemic, the results are delayed for the foreseeable future. As of the date of this report, the EIC results have not been received. Based upon the in-house records search compiled by EIC data, eight cultural resources are located within one mile of the project; however, no resources have been recorded within the Area of Potential Effect (APE). The in-house records search results also indicated that a total of 46 cultural resource studies have been conducted within a one-mile radius of the project, none of which include the APE. A Sacred Lands File (SLF) search was also requested from the Native American Heritage Commission (NAHC) to determine if any recorded Native American sacred sites or locations of religious or ceremonial importance are present within the project.

1.1 Purpose of Investigation

The purpose of this investigation was to complete a records search of previously recorded archaeological sites on or near the property, survey the project acreage, identify any archaeological resources within the project, and test and evaluate any cultural resources that may be impacted by the proposed development.

1.2 Major Findings

The in-house records search compiled by EIC data indicated that eight cultural resources are located within one mile of the project; however, no resources have been recorded within the APE. Most of the resources identified within one mile of the APE are historic buildings and prehistoric isolates and artifact scatters. The records search results also indicated that a total of

46 cultural resource studies have been conducted within a one-mile radius of the project, none of which include any portion of the APE.

BFSA also requested a records search of the SLF of the NAHC to determine the presence of any sacred sites or locations of religious or ceremonial importance within the search radius. The NAHC SLF results were negative for the presence of Native American sacred sites or locations of religious or ceremonial importance. All correspondence is provided in Appendix C.

The project was noted as generally flat with elevations ranging from 1,329 to 1,356 feet above mean sea level. A modern house and two sheds were located on the property. No prehistoric cultural resources were discovered as a result of the survey, but one foundation was observed that appeared potentially historic; however, historic aerial photographs document the foundation does not meet the age threshold to qualify as historic.

1.3 Recommendation Summary

Based upon the in-house records search data, the general area contains a minimal number of cultural resources mostly associated with the historic development of the region. The archaeological survey identified one potentially historic foundation, but no other historic features were noted. Based upon the historic aerial photographs researched, the foundation appears to be less than 50 years old and therefore does not meet the minimum age threshold to be historic. Based upon the absence of any significant cultural resources within the APE, site-specific mitigation measures will not be required for this project. However, monitoring of grading is recommended because past uses may have masked prehistoric sites or other historic features. No further archaeological study is recommended as a condition of permit approval based upon the records search and the results of the field survey, although monitoring of grading is recommended due to the potential to encounter historic or prehistoric features or artifacts.

2.0 INTRODUCTION

BFSA was retained by EPD Solutions, Inc. to conduct a cultural resources survey for the Wildomar Trail Project, located within the city of Wildomar, Riverside County, California. The archaeological survey was conducted in order to comply with CEQA and City of Wildomar environmental guidelines with regards to development-generated impacts to cultural resources. The project is located in an area of low to moderate cultural resource sensitivity, as is suggested by known site density and predictive modeling. Sensitivity for cultural resources in a given area is usually indicated by known settlement patterns, which in Riverside County are focused around environments with accessible food and water.

The project is located northwest of the intersection of Clinton Keith Road and George Avenue, just east of Interstate 15, within Assessor's Parcel Numbers (APNs) 376-410-015 to -017 and -021 (Figure 2.0–1). The project is situated within Section 36, Township 6 South, Range 4 West, of the San Bernardino Baseline and Meridian in the U.S. Geological Survey 7.5-minute *Murrieta*, *California* topographic quadrangle map (Figure 2.0–2). The project proposes the construction of multifamily and commercial developments (Figure 2.0–3).

Principal Investigator Brian F. Smith conducted the pedestrian survey of the project on October 13, 2021. Brian Smith and Summer J. Forsman prepared the technical report. Jillian L.H. Conroy created the report graphics and Summer Forsman conducted technical editing and report production. Qualifications of key personnel are provided in Appendix A.

2.1 Previous Work

The in-house records search for the project compiled by EIC data indicates that eight cultural resources are located within one mile of the project; however, no resources have been recorded within the APE. The in-house records search results also indicated that a total of 46 cultural resource studies have been conducted within a one-mile radius of the project, none of which include the APE.

2.2 Project Setting

Riverside County lies in the Peninsular Ranges Geologic Province of southern California. The mountain range, which lies in a northwest to southeast trend through the county, extends some 1,000 miles from the Raymond-Malibu Fault Zone in western Los Angeles County to the southern tip of Baja California.

The project is situated within the southern portion of Elsinore Valley, which occupies the Elsinore fault zone (Morton and Miller 2006). The project area is underlain entirely by the middle Pleistocene-aged sandstone member of the fossiliferous Pauba Formation. The sandstone member of the Pauba Formation consists of "brown, moderately well-indurated, cross-bedded sandstone containing sparse cobble- to boulder-conglomerate beds."

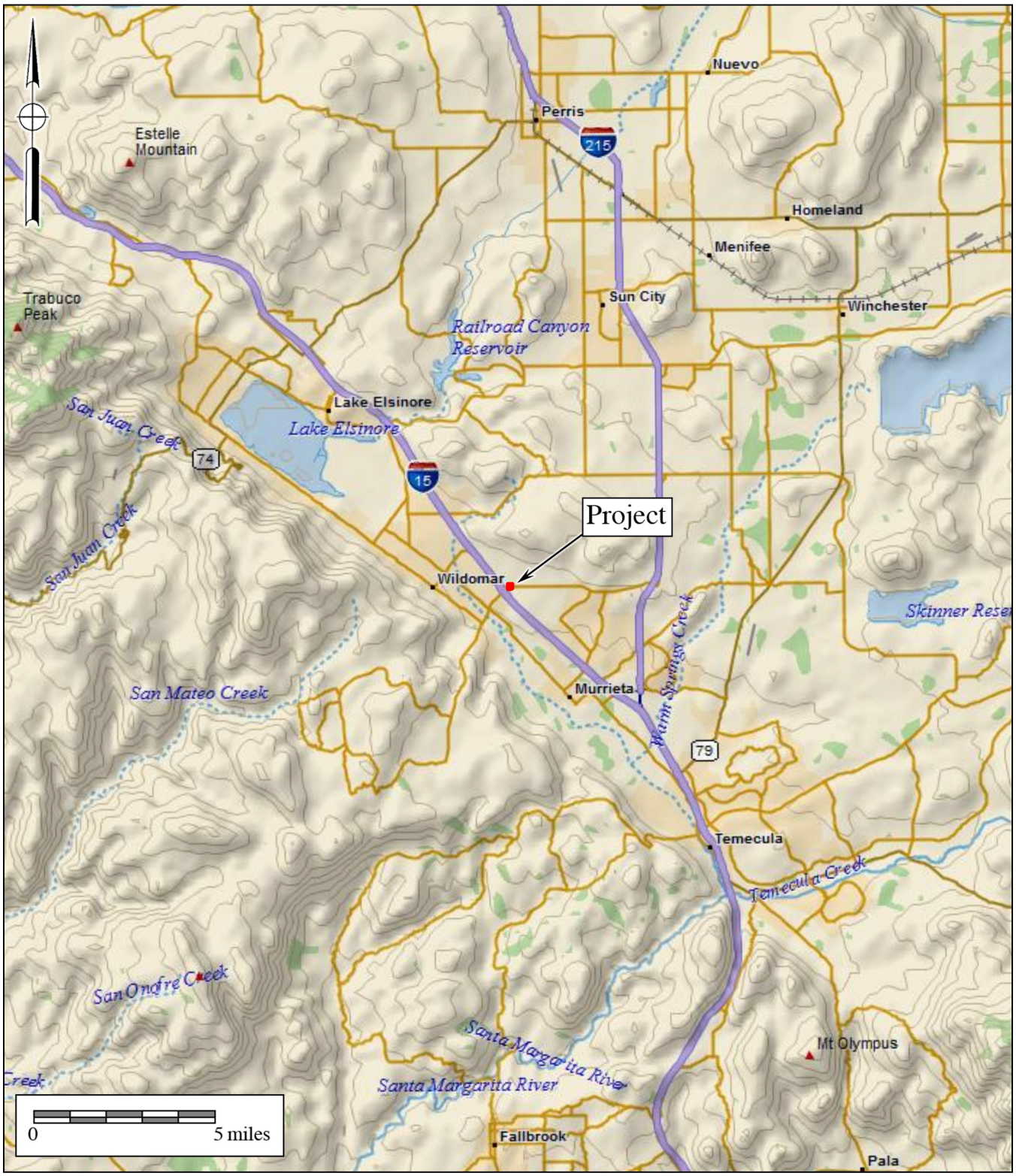


Figure 2.0–1

General Location Map

The Wildomar Trail Project

DeLorme (1:250,000)



Figure 2.0–2
Project Location Map
The Wildomar Trail Project

USGS *Murrieta* and *Wildomar* Quadrangles (7.5-minute series)

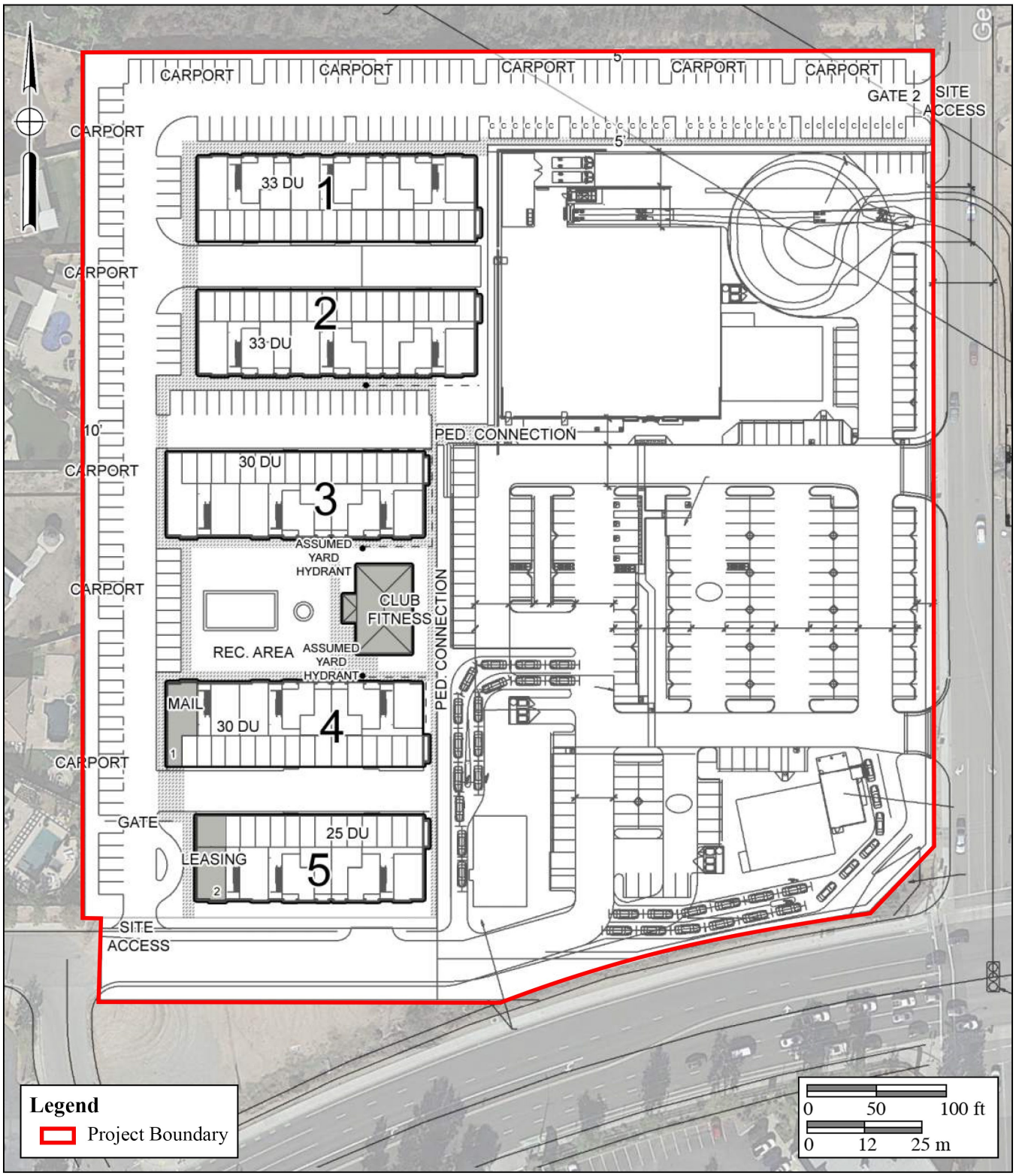


Figure 2.0–3
Site Plan
The Wildomar Trail Project

Nearby to the north is the Cretaceous-aged monzogranite to granodiorite of the Paloma Valley Ring Complex (plutonic rocks). Underlying the Pauba Formation, and exposed to the south of the project, is the fossiliferous sandstone member of the Pleistocene to Pliocene-aged "unnamed sandstone and conglomerate of the Wildomar area", described as friable, pale yellowish-green, medium-grained, caliche-rich sandstone (Morton and Miller 2006). In the greater Wildomar, Murrieta, and Temecula areas, this formation has produced abundant suites of fossil terrestrial mammals, including various reptiles and amphibians, shrew, various rodents, rabbit, giant ground sloth, saber-tooth cat, pronghorn antelope, tapir, horse, camel, mastodon, mammoth, deer, and llama.

The subject property has been disturbed by past uses that include grading and deposition of soil in the center of the property and rural residential uses on the east and west portions of the property. The entire property has been cleared and partially graded in the past.

2.3 Cultural Setting – Archaeological Perspectives

The archaeological perspective seeks to reconstruct past cultures based upon the material remains left behind. This is done using a range of scientific methodologies, almost all of which draw from evolutionary theory as the base framework. Archaeology allows one to look deeper into history or prehistory to see where the beginnings of ideas manifest themselves via analysis of material culture, allowing for the understanding of outside forces that shape social change. Thus, the archaeological perspective allows one to better understand the consequences of the history of a given culture upon modern cultures. Archaeologists seek to understand the effects of past contexts of a given culture on this moment in time, not culture in context *in* the moment.

Despite this, a distinction exists between "emic" and "etic" ways of understanding material culture, prehistoric lifeways, and cultural phenomena in general (Harris 1991). While "emic" perspectives serve the subjective ways in which things are perceived and interpreted by the participants within a culture, "etic" perspectives are those of an outsider looking in hopes of attaining a more scientific or "objective" understanding of the given phenomena. Archaeologists, by definition, will almost always serve an etic perspective as a result of the very nature of their work. As indicated by Laylander et al. (2014), it has sometimes been suggested that etic understanding, and therefore an archaeological understanding, is an imperfect and potentially ethnocentric attempt to arrive at emic understanding. In contract to this, however, an etic understanding of material culture, cultural phenomena, and prehistoric lifeways can address significant dimensions of culture that lie entirely beyond the understanding or interest of those solely utilizing an emic perspective. As Harris (1991:20) appropriately points out, "Etic studies often involve the measurement and juxtaposition of activities and events that native informants find inappropriate or meaningless." This is also likely true of archaeological comparisons and juxtapositions of material culture. However, culture as a whole does not occur in a vacuum and is the result of several millennia of choices and consequences influencing everything from technology, to religions, to institutions. Archaeology allows for the ability to not only see what

came before, but to see how those choices, changes, and consequences affect the present. Where possible, archaeology should seek to address both emic and etic understandings to the extent that they may be recoverable from the archaeological record as manifestations of patterned human behavior (Laylander et al. 2014).

To that point, the culture history offered herein is primarily based upon archaeological (etic) and ethnographic (partially emic and partially etic) information. It is understood that the ethnographic record and early archaeological records were incompletely and imperfectly collected. In addition, in most cases, more than a century of intensive cultural change and cultural evolution had elapsed since the terminus of the prehistoric period. Coupled with the centuries and millennia of prehistoric change separating the "ethnographic present" from the prehistoric past, this has affected the emic and etic understandings of prehistoric cultural settings. Regardless, there remains a need to present the changing cultural setting within the region under investigation. As a result, both archaeological and Native American perspectives are offered when possible.

2.3.1 Introduction

Paleo Indian, Archaic Period Milling Stone Horizon, and the Late Prehistoric Takic groups are the three general cultural periods represented in Riverside County. The following discussion of the cultural history of Riverside County references the San Dieguito Complex, Encinitas Tradition, Milling Stone Horizon, La Jolla Complex, Pauma Complex, and San Luis Rey Complex, since these culture sequences have been used to describe archaeological manifestations in the region. The Late Prehistoric component present in the Riverside County area was primarily represented by the Cahuilla, Gabrielino, and Luiseño Indians.

Absolute chronological information, where possible, will be incorporated into this archaeological discussion to examine the effectiveness of continuing to interchangeably use these terms. Reference will be made to the geological framework that divides the archaeologically-based culture chronology of the area into four segments: the late Pleistocene (20,000 to 10,000 years before the present [YBP]), the early Holocene (10,000 to 6,650 YBP), the middle Holocene (6,650 to 3,350 YBP), and the late Holocene (3,350 to 200 YBP).

2.3.2 Paleo Indian Period (Late Pleistocene: 11,500 to circa 9,000 YBP)

Archaeologically, the Paleo Indian Period is associated with the terminus of the late Pleistocene (12,000 to 10,000 YBP). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands (Moratto 1984). However, by the terminus of the late Pleistocene, the climate became warmer, which caused the glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes (Moratto 1984; Martin 1967, 1973; Fagan 1991). The coastal shoreline at 10,000 YBP, depending upon the particular area of the coast, was near the 30-meter isobath, or

two to six kilometers further west than its present location (Masters 1983).

Paleo Indians were likely attracted to multiple habitat types, including mountains, marshlands, estuaries, and lakeshores. These people likely subsisted using a more generalized hunting, gathering, and collecting adaptation utilizing a variety of resources including birds, mollusks, and both large and small mammals (Erlandson and Colten 1991; Moratto 1984; Moss and Erlandson 1995).

2.3.3 Archaic Period (Early and Middle Holocene: circa 9,000 to 1,300 YBP)

Archaeological data indicates that between 9,000 and 8,000 YBP, a widespread complex was established in the southern California region, primarily along the coast (Warren and True 1961). This complex is locally known as the La Jolla Complex (Rogers 1939; Moriarty 1966), which is regionally associated with the Encinitas Tradition (Warren 1968) and shares cultural components with the widespread Milling Stone Horizon (Wallace 1955). The coastal expression of this complex appeared in southern California coastal areas and focused upon coastal resources and the development of deeply stratified shell middens that were primarily located around bays and lagoons. The older sites associated with this expression are located at Topanga Canyon, Newport Bay, Agua Hedionda Lagoon, and some of the Channel Islands. Radiocarbon dates from sites attributed to this complex span a period of over 7,000 years in this region, beginning over 9,000 YBP.

The Encinitas Tradition is best recognized for its pattern of large coastal sites characterized by shell middens, grinding tools that are closely associated with the marine resources of the area, cobble-based tools, and flexed human burials (Shumway et al. 1961; Smith and Moriarty 1985). While ground stone tools and scrapers are the most recognized tool types, coastal Encinitas Tradition sites also contain numerous utilized flakes, which may have been used to pry open shellfish. Artifact assemblages at coastal sites indicate a subsistence pattern focused upon shellfish collection and nearshore fishing. This suggests an incipient maritime adaptation with regional similarities to more northern sites of the same period (Koerper et al. 1986). Other artifacts associated with Encinitas Tradition sites include stone bowls, doughnut stones, discoidals, stone balls, and stone, bone, and shell beads.

The coastal lagoons in southern California supported large Milling Stone Horizon populations circa 6,000 YBP, as is shown by numerous radiocarbon dates from the many sites adjacent to the lagoons. The ensuing millennia were not stable environmentally, and by 3,000 YBP, many of the coastal sites in central San Diego County had been abandoned (Gallegos 1987, 1992). The abandonment of the area is usually attributed to the sedimentation of coastal lagoons and the resulting deterioration of fish and mollusk habitat, which is a well-documented situation at Batiquitos Lagoon (Miller 1966; Gallegos 1987). Over a two-thousand-year period at Batiquitos Lagoon, dominant mollusk species occurring in archaeological middens shift from deep-water mollusks (*Argopecten* sp.) to species tolerant of tidal flat conditions (*Chione* sp.), indicating water depth and temperature changes (Miller 1966; Gallegos 1987).

This situation likely occurred for other small drainages (Buena Vista, Agua Hedionda, San Marcos, and Escondido creeks) along the central San Diego coast where low flow rates did not produce sufficient discharge to flush the lagoons they fed (Buena Vista, Agua Hedionda, Batiquitos, and San Elijo lagoons) (Byrd 1998). Drainages along the northern and southern San Diego coastline were larger and flushed the coastal hydrological features they fed, keeping them open to the ocean and allowing for continued human exploitation (Byrd 1998). Peñasquitos Lagoon exhibits dates as late as 2,355 YBP (Smith and Moriarty 1985) and San Diego Bay showed continuous occupation until the close of the Milling Stone Horizon (Gallegos and Kyle 1988). Additionally, data from several drainages in Camp Pendleton indicate a continued occupation of shell midden sites until the close of the period, indicating that coastal sites were not entirely abandoned during this time (Byrd 1998).

By 5,000 YBP, an inland expression of the La Jolla Complex is evident in the archaeological record, exhibiting influences from the Campbell Tradition from the north. These inland Milling Stone Horizon sites have been termed "Pauma Complex" (True 1958; Warren et al. 1961; Meighan 1954). By definition, Pauma Complex sites share a predominance of grinding implements (manos and metates), lack mollusk remains, have greater tool variety (including atlatl dart points, quarry-based tools, and crescentics), and seem to express a more sedentary lifestyle with a subsistence economy based upon the use of a broad variety of terrestrial resources. Although originally viewed as a separate culture from the coastal La Jolla Complex (True 1980), it appears that these inland sites may be part of a subsistence and settlement system utilized by the coastal peoples. Evidence from the 4S Project in inland San Diego County suggests that these inland sites may represent seasonal components within an annual subsistence round by La Jolla Complex populations (Raven-Jennings et al. 1996). Including both coastal and inland sites of this time period in discussions of the Encinitas Tradition, therefore, provides a more complete appraisal of the settlement and subsistence system exhibited by this cultural complex.

More recent work by Sutton has identified a more localized complex known as the Greven Knoll Complex. The Greven Knoll Complex is a redefined northern inland expression of the Encinitas Tradition first put forth by Mark Sutton and Jill Gardener (2010). Sutton and Gardener (2010:25) state that "[t]he early millingstone archaeological record in the northern portion of the interior southern California was not formally named but was often referred to as 'Inland Millingstone,' 'Encinitas,' or even 'Topanga.'" Therefore, they proposed that all expressions of the inland Milling Stone in southern California north of San Diego County be grouped together in the Greven Knoll Complex.

The Greven Knoll Complex, as postulated by Sutton and Gardener (2010), is broken into three phases and obtained its name from the type-site Greven Knoll located in Yucaipa, California. Presently, the Greven Knoll Site is part of the Yukaipa't Site (SBR-1000) and was combined with the adjacent Simpson Site. Excavations at Greven Knoll recovered manos, metates, projectile points, discoidal cogged stones, and a flexed inhumation with a possible

cremation (Kowta 1969:39). It is believed that the Greven Knoll Site was occupied between 5,000 and 3,500 YBP. The Simpson Site contained mortars, pestles, side-notched points, and stone and shell beads. Based upon the data recovered at these sites, Kowta (1969:39) suggested that "coastal Milling Stone Complexes extended to and interdigitated with the desert Pinto Basin Complex in the vicinity of the Cajon Pass."

Phase I of the Greven Knoll Complex is generally dominated by the presence of manos and metates, core tools, hammerstones, large dart points, flexed inhumations, and occasional cremations. Mortars and pestles are absent from this early phase, and the subsistence economy emphasized hunting. Sutton and Gardener (2010:26) propose that the similarity of the material culture of Greven Knoll Phase I and that found in the Mojave Desert at Pinto Period sites indicates that the Greven Knoll Complex was influenced by neighbors to the north at that time. Accordingly, Sutton and Gardener (2010) believe that Greven Knoll Phase I may have appeared as early as 9,400 YBP and lasted until about 4,000 YBP.

Greven Knoll Phase II is associated with a period between 4,000 and 3,000 YBP. Artifacts common to Greven Knoll Phase II include manos and metates, Elko points, core tools, and discoidals. Pestles and mortars are present; however, they are only represented in small numbers. Finally, there is an emphasis upon hunting and gathering for subsistence (Sutton and Gardener 2010:8).

Greven Knoll Phase III includes manos, metates, Elko points, scraper planes, choppers, hammerstones, and discoidals. Again, small numbers of mortars and pestles are present. Greven Knoll Phase III spans from approximately 3,000 to 1,000 YBP and shows a reliance upon seeds and yucca. Hunting is still important, but bones seem to have been processed to obtain bone grease more often in this later phase (Sutton and Gardener 2010:8).

The shifts in food processing technologies during each of these phases indicate a change in subsistence strategies; although people were still hunting for large game, plant-based foods eventually became the primary dietary resource (Sutton 2011a). Sutton's (2011b) argument posits that the development of mortars and pestles during the middle Holocene can be attributed to the year-round exploitation of acorns as a main dietary provision. Additionally, the warmer and drier climate may have been responsible for groups from the east moving toward coastal populations, which is archaeologically represented by the interchange of coastal and eastern cultural traits (Sutton 2011a).

2.3.4 Late Prehistoric Period (Late Holocene: 1,300 YBP to 1790)

Many Luiseño hold the world view that as a population they were created in southern California; however, archaeological and anthropological data proposes a scientific/archaeological perspective. Archaeological and anthropological evidence suggests that at approximately 1,350 YBP, Takic-speaking groups from the Great Basin region moved into Riverside County, marking the transition to the Late Prehistoric Period. An analysis of the Takic expansion by Sutton (2009) indicates that inland southern California was occupied by "proto-

Yuman" populations before 1,000 YBP. The comprehensive, multi-phase model offered by Sutton (2009) employs linguistic, ethnographic, archaeological, and biological data to solidify a reasonable argument for population replacement of Takic groups to the north by Penutians (Laylander 1985). As a result, it is believed that Takic expansion occurred starting around 3,500 YBP moving toward southern California, with the Gabrielino language diffusing south into neighboring Yuman (Hokan) groups around 1,500 to 1,000 YBP, possibly resulting in the Luiseño dialect.

Based upon Sutton's model, the final Takic expansion would not have occurred until about 1,000 YBP, resulting in Vanyume, Serrano, Cahuilla, and Cupeño dialects. The model suggests that the Luiseño did not simply replace Hokan speakers, but were rather a northern San Diego County/southern Riverside County Yuman population who adopted the Takic language. This period is characterized by higher population densities and elaborations in social, political, and technological systems. Economic systems diversified and intensified during this period with the continued elaboration of trade networks, the use of shell-bead currency, and the appearance of more labor-intensive, yet effective, technological innovations. Technological developments during this period included the introduction of the bow and arrow between A.D. 400 and 600 and the introduction of ceramics. Atlatl darts were replaced by smaller arrow darts, including Cottonwood series points. Other hallmarks of the Late Prehistoric Period include extensive trade networks as far-reaching as the Colorado River Basin and cremation of the dead.

2.3.5 Protohistoric Period (Late Holocene: 1790 to Present)

Ethnohistoric and ethnographic evidence indicates that three Takic-speaking groups occupied portions of Riverside County: the Cahuilla, the Gabrielino, and the Luiseño. The geographic boundaries between these groups in pre- and proto-historic times are difficult to place, but the project is located well within the borders of ethnographic Luiseño territory. This group was a seasonal hunting and gathering people with cultural elements that were very distinct from Archaic Period peoples. These distinctions include cremation of the dead, the use of the bow and arrow, and exploitation of the acorn as a main food staple (Moratto 1984). Along the coast, the Luiseño made use of available marine resources by fishing and collecting mollusks for food. Seasonally available terrestrial resources, including acorns and game, were also sources of nourishment for Luiseño groups. Elaborate kinship and clan systems between the Luiseño and other groups facilitated a wide-reaching trade network that included trade of Obsidian Butte obsidian and other resources from the eastern deserts, as well as steatite from the Channel Islands.

According to Charles Handley (1967), the primary settlements of Late Prehistoric Luiseño Indians in the San Jacinto Plain were represented by Ivah and Soboba near Soboba Springs, Jusipah near the town of San Jacinto, Ararah in Webster's Canyon en route to Idyllwild, Pahsitha near Big Springs Ranch southeast of Hemet, and Corova in Castillo Canyon. These locations share features such as the availability of food and water resources. Features of this

land use include petroglyphs and pictographs, as well as widespread milling, which is evident in bedrock and portable implements. Groups in the vicinity of the project, neighboring the Luiseño, include the Cahuilla and the Gabrielino. Ethnographic data for the three groups is presented below.

Luiseño: An Archaeological and Ethnographic Perspective

When contacted by the Spanish in the sixteenth century, the Luiseño occupied a territory bounded on the west by the Pacific Ocean, on the east by the Peninsular Ranges mountains at San Jacinto (including Palomar Mountain to the south and Santiago Peak to the north), on the south by Agua Hedionda Lagoon, and on the north by Aliso Creek in present-day San Juan Capistrano. The Luiseño were a Takic-speaking people more closely related linguistically and ethnographically to the Cahuilla, Gabrielino, and Cupeño to the north and east rather than the Kumeyaay who occupied territory to the south. The Luiseño differed from their neighboring Takic speakers in having an extensive proliferation of social statuses, a system of ruling families that provided ethnic cohesion within the territory, a distinct worldview that stemmed from the use of datura (a hallucinogen), and an elaborate religion that included the creation of sacred sand paintings depicting the deity Chingichngish (Bean and Shipek 1978; Kroeber 1976).

Subsistence and Settlement

The Luiseño occupied sedentary villages most often located in sheltered areas in valley bottoms, along streams, or along coastal strands near mountain ranges. Villages were located near water sources to facilitate acorn leaching and in areas that offered thermal and defensive protection. Villages were composed of areas that were publicly and privately (by family) owned. Publicly owned areas included trails, temporary campsites, hunting areas, and quarry sites. Inland groups had fishing and gathering sites along the coast that were intensively used from January to March when inland food resources were scarce. During October and November, most of the village would relocate to mountain oak groves to harvest acorns. The Luiseño remained at village sites for the remainder of the year, where food resources were within a day's travel (Bean and Shipek 1978; Kroeber 1976).

The most important food source for the Luiseño was the acorn, six different species of which were used (*Quercus californica, Quercus agrifolia, Quercus chrysolepis, Quercus dumosa, Quercus engelmannii,* and *Quercus wislizenii*). Seeds, particularly of grasses, flowering plants, and mints, were also heavily exploited. Seed-bearing species were encouraged through controlled burns, which were conducted at least every third year. A variety of other stems, leaves, shoots, bulbs, roots, and fruits were also collected. Hunting augmented this vegetal diet. Animal species taken included deer, rabbit, hare, woodrat, ground squirrel, antelope, quail, duck, freshwater fish from mountain streams, marine mammals, and other sea creatures such as fish, crustaceans, and mollusks (particularly abalone, or *Haliotis* sp.). In addition, a variety of snakes, small birds, and rodents were eaten (Bean and Shipek 1978; Kroeber 1976).

Social Organization

Social groups within the Luiseño nation consisted of patrilinear families or clans, which were politically and economically autonomous. Several clans comprised a religious party, or nota, which was headed by a chief who organized ceremonies and controlled economics and warfare. The chief had assistants who specialized in particular aspects of ceremonial or environmental knowledge and who, with the chief, were part of a religion-based social group with special access to supernatural power, particularly that of Chingichngish. The positions of chief and assistants were hereditary, and the complexity and multiplicity of these specialists' roles likely increased in coastal and larger inland villages (Bean and Shipek 1978; Kroeber 1976; Strong 1929).

Marriages were arranged by the parents, often made to forge alliances between lineages. Useful alliances included those between groups of differing ecological niches and those that resulted in territorial expansion. Residence was patrilocal (Bean and Shipek 1978; Kroeber 1976). Women were primarily responsible for plant gathering and men principally hunted, although, at times, particularly during acorn and marine mollusk harvests, there was no division of labor. Elderly women cared for children and elderly men participated in rituals, ceremonies, and political affairs. They were also responsible for manufacturing hunting and ritual implements. Children were taught subsistence skills at the earliest age possible (Bean and Shipek 1978; Kroeber 1976).

Material Culture

House structures were conical, partially subterranean, and thatched with reeds, brush, or bark. Ramadas were rectangular, protected workplaces for domestic chores such as cooking. Ceremonial sweathouses were important in purification rituals; these were round and partially subterranean thatched structures covered with a layer of mud. Another ceremonial structure was the wámkis (located in the center of the village, serving as the place of rituals), where sand paintings and other rituals associated with the Chingichngish religious group were performed (Bean and Shipek 1978; Kroeber 1976).

Clothing was minimal; women wore a cedar-bark and netted twine double apron and men wore a waist cord. In cold weather, cloaks or robes of rabbit fur, deerskin, or sea otter fur were worn by both sexes. Footwear included deerskin moccasins and sandals fashioned from yucca fibers. Adornments included bead necklaces and pendants made of bone, clay, stone, shell, bear claw, mica, deer hooves, and abalone shell. Men wore ear and nose piercings made from cane or bone, which were sometimes decorated with beads. Other adornments were commonly decorated with semiprecious stones including quartz, topaz, garnet, opal, opalite, agate, and jasper (Bean and Shipek 1978; Kroeber 1976).

Hunting implements included the bow and arrow. Arrows were tipped with either a carved, fire-hardened wood tip or a lithic point, usually fashioned from locally available metavolcanic material or quartz. Throwing sticks fashioned from wood were used in hunting

small game, while deer head decoys were used during deer hunts. Coastal groups fashioned dugout canoes for nearshore fishing and harvested fish with seines, nets, traps, and hooks made of bone or abalone shell (Bean and Shipek 1978; Kroeber 1976).

The Luiseño had a well-developed basket industry. Baskets were used in resource gathering, food preparation, storage, and food serving. Ceramic containers were shaped by paddle and anvil and fired in shallow, open pits to be used for food storage, cooking, and serving. Other utensils included wood implements, steatite bowls, and ground stone manos, metates, mortars, and pestles (Bean and Shipek 1978; Kroeber 1976). Additional tools such as knives, scrapers, choppers, awls, and drills were also used. Shamanistic items include soapstone or clay smoking pipes and crystals made of quartz or tourmaline (Bean and Shipek 1978; Kroeber 1976).

Cahuilla: An Archaeological and Ethnographic Perspective

At the time of Spanish contact in the sixteenth century, the Cahuilla occupied territory that included the San Bernardino Mountains, Orocopia Mountain, and the Chocolate Mountains to the west, Salton Sea and Borrego Springs to the south, Palomar Mountain and Lake Mathews to the west, and the Santa Ana River to the north. The Cahuilla are a Takic-speaking people closely related to their Gabrielino and Luiseño neighbors, although relations with the Gabrielino were more intense than with the Luiseño. They differ from the Luiseño and Gabrielino in that their religion is more similar to the Mohave tribes of the eastern deserts than the Chingichngish religious group of the Luiseño and Gabrielino. The following is a summary of ethnographic data regarding this group (Bean 1978; Kroeber 1976).

Subsistence and Settlement

Cahuilla villages were typically permanent and located on low terraces within canyons in proximity to water sources. These locations proved to be rich in food resources and also afforded protection from prevailing winds. Villages had areas that were publicly owned and areas that were privately owned by clans, families, or individuals. Each village was associated with a particular lineage and series of sacred sites that included unique petroglyphs and pictographs. Villages were occupied throughout the year; however, during a several-week period in the fall, most of the village members relocated to mountain oak groves to take part in acorn harvesting (Bean 1978; Kroeber 1976).

The Cahuilla's use of plant resources is well documented. Plant foods harvested by the Cahuilla included valley oak acorns and single-leaf pinyon pine nuts. Other important plant species included bean and screw mesquite, agave, Mohave yucca, cacti, palm, chia, quail brush, yellowray goldfield, goosefoot, manzanita, catsclaw, desert lily, mariposa lily, and a number of other species such as grass seed. A number of agricultural domesticates were acquired from the Colorado River tribes including corn, bean, squash, and melon grown in limited amounts. Animal species taken included deer, bighorn sheep, pronghorn antelope, rabbit, hare, rat, quail,

dove, duck, roadrunner, and a variety of rodents, reptiles, fish, and insects (Bean 1978; Kroeber 1976).

Social Organization

The Cahuilla was not a political nation, but rather a cultural nationality with a common language. Two non-political, non-territorial patrimoieties were recognized: the Wildcats (túktem) and the Coyotes (?ístam). Lineage and kinship were memorized at a young age among the Cahuilla, providing a backdrop for political relationships. Clans were composed of three to 10 lineages; each lineage owned a village site and specific resource areas. Lineages within a clan cooperated in subsistence activities, defense, and rituals (Bean 1978; Kroeber 1976).

A system of ceremonial hierarchy operated within each lineage. The hierarchy included the lineage leader, who was responsible for leading subsistence activities, guarding the sacred bundle, and negotiating with other lineage leaders in matters concerning land use, boundary disputes, marriage arrangements, trade, warfare, and ceremonies. The ceremonial assistant to the lineage leader was responsible for organizing ceremonies. A ceremonial singer possessed and performed songs at rituals and trained assistant singers. The shaman cured illnesses through supernatural powers, controlled natural phenomena, and was the guardian of ceremonies, keeping evil spirits away. The diviner was responsible for finding lost objects, telling future events, and locating game and other food resources. Doctors were usually older women who cured various ailments and illnesses with their knowledge of medicinal herbs. Finally, certain Cahuilla specialized as traders, who ranged as far west as Santa Catalina and as far east as the Gila River (Bean 1978; Kroeber 1976).

Marriages were arranged by parents from opposite moieties. When a child was born, an alliance formed between the families, which included frequent reciprocal exchanges. The Cahuilla kinship system extended to relatives within five generations. Important economic decisions, primarily the distribution of goods, operated within this kinship system (Bean 1978; Kroeber 1976).

Material Culture

Cahuilla houses were dome-shaped or rectangular, thatched structures. The home of the lineage leader was the largest, located near the ceremonial house with the best access to water. Other structures within the village included the men's sweathouse and granaries (Bean 1978; Kroeber 1976).

Cahuilla clothing, like other groups in the area, was minimal. Men typically wore a loincloth and sandals; women wore skirts made from mesquite bark, animal skin, or tules. Babies wore mesquite bark diapers. Rabbit skin cloaks were worn in cold weather (Bean 1978; Kroeber 1976).

Hunting implements included the bow and arrow, throwing sticks, and clubs. Grinding tools used in food processing included manos, metates, and wood mortars. The Cahuilla were

known to use long grinding implements made from wood to process mesquite beans; the mortar was typically a hollowed log buried in the ground. Other tools included steatite arrow shaft straighteners (Bean 1978; Kroeber 1976).

Baskets were made from rush, deer grass, and skunkbrush. Different species and leaves were chosen for different colors in the basket design. Coiled-ware baskets were either flat (for plates, trays, or winnowing), bowl-shaped (for food serving), deep, inverted, and cone-shaped (for transporting), or rounded and flat-bottomed for storing utensils and personal items (Bean 1978; Kroeber 1976).

Cahuilla pottery was made from a thin, red-colored ceramic ware that was often painted and incised. Four basic vessel types are known for the Cahuilla: small-mouthed jars, cooking pots, bowls, and dishes. Additionally, smoking pipes and flutes were fashioned from ceramic (Bean 1978; Kroeber 1976).

Gabrielino: An Archaeological and Ethnographic Perspective

The territory of the Gabrielino at the time of Spanish contact covers much of present-day Los Angeles and Orange counties. The southern extent of this culture area is bounded by Aliso Creek, the eastern extent is located east of present-day San Bernardino along the Santa Ana River, the northern extent includes the San Fernando Valley, and the western extent includes portions of the Santa Monica Mountains. The Gabrielino also occupied several Channel Islands including Santa Barbara Island, Santa Catalina Island, San Nicholas Island, and San Clemente Island. Because of their access to certain resources, including a steatite source from Santa Catalina Island, this group was among the wealthiest and most populous aboriginal groups in all of southern California. Trade of materials and resources controlled by the Gabrielino extended as far north as the San Joaquin Valley, as far east as the Colorado River, and as far south as Baja California (Bean and Smith 1978; Kroeber 1976).

Subsistence and Settlement

The Gabrielino lived in permanent villages and occupied smaller resource-gathering camps at various times of the year depending upon the seasonality of the resource. Larger villages were comprised of several families or clans, while smaller, seasonal camps typically housed smaller family units. The coastal area between San Pedro and Topanga Canyon was the location of primary subsistence villages, while secondary sites were located near inland sage stands, oak groves, and pine forests. Permanent villages were located along rivers and streams and in sheltered areas along the coast. As previously mentioned, the Channel Islands were also the locations of relatively large settlements (Bean and Smith 1978; Kroeber 1976).

Resources procured along the coast and on the islands were primarily marine in nature and included tuna, swordfish, ray and shark, California sea lion, Stellar sea lion, harbor seal, northern elephant seal, sea otter, dolphin and porpoise, various waterfowl species, numerous fish species, purple sea urchin, and mollusks, such as rock scallop, California mussel, and limpet.

Inland resources included oak acorn, pine nut, Mohave yucca, cacti, sage, grass nut, deer, rabbit, hare, rodent, quail, duck, and a variety of reptiles such as western pond turtle and numerous snake species (Bean and Smith 1978; Kroeber 1976).

Social Organization

The social structure of the Gabrielino is little known; however, there appears to have been at least three social classes: 1) the elite, which included the rich, chiefs, and their immediate family; 2) a middle class, which included people of relatively high economic status or long-established lineages; and 3) a class of people that included most other individuals in the society. Villages were politically autonomous units comprised of several lineages. During times of the year when certain seasonal resources were available, the village would divide into lineage groups and move out to exploit them, returning to the village between forays (Bean and Smith 1978; Kroeber 1976).

Each lineage had its own leader, with the village chief coming from the dominant lineage. Several villages might be allied under a paramount chief. Chiefly positions were of an ascribed status, most often passed to the eldest son. Chiefly duties included providing village cohesion, leading warfare, and peace negotiations with other groups, collecting tribute from the village(s) under his jurisdiction, and arbitrating disputes within the village(s). The status of the chief was legitimized by his safekeeping of the sacred bundle, a representation of the link between the material and spiritual realms and the embodiment of power (Bean and Smith 1978; Kroeber 1976).

Shamans were leaders in the spirit realm. The duties of the shaman included conducting healing and curing ceremonies, guarding the sacred bundle, locating lost items, identifying, and collecting poisons for arrows, and making rain (Bean and Smith 1978; Kroeber 1976).

Marriages were made between individuals of equal social status, and, in the case of powerful lineages, marriages were arranged to establish political ties between the lineages (Bean and Smith 1978; Kroeber 1976).

Men conducted the majority of the heavy labor, hunting, fishing, and trading with other groups. Women's duties included gathering and preparing plant and animal resources, and making baskets, pots, and clothing (Bean and Smith 1978; Kroeber 1976).

Material Culture

Gabrielino houses were domed, circular structures made of thatched vegetation. Houses varied in size and could house from one to several families. Sweathouses (semicircular, earth-covered buildings) were public structures used in male social ceremonies. Other structures included menstrual huts and a ceremonial structure called a yuvar, an open-air structure built near the chief's house (Bean and Smith 1978; Kroeber 1976).

Clothing was minimal; men and children most often went naked, while women wore deerskin or bark aprons. In cold weather, deerskin, rabbit fur, or bird skin (with feathers intact)

cloaks were worn. Island and coastal groups used sea otter fur for cloaks. In areas of rough terrain, yucca fiber sandals were worn. Women often used red ochre on their faces and skin for adornment or protection from the sun. Adornment items included feathers, fur, shells, and beads (Bean and Smith 1978; Kroeber 1976).

Hunting implements included wood clubs, sinew-backed bows, slings, and throwing clubs. Maritime implements included rafts, harpoons, spears, hook and line, and nets. A variety of other tools included deer scapulae saws, bone and shell needles, bone awls, scrapers, bone or shell flakers, wedges, stone knives and drills, metates, mullers, manos, shell spoons, bark platters, and wood paddles and bowls. Baskets were made from rush, deer grass, and skunkbush. Baskets were fashioned for hoppers, plates, trays, and winnowers for leaching, straining, and gathering. Baskets were also used for storing, preparing, and serving food, and for keeping personal and ceremonial items (Bean and Smith 1978; Kroeber 1976).

The Gabrielino had exclusive access to soapstone, or steatite, procured from Santa Catalina Island quarries. This highly prized material was used for making pipes, animal carvings, ritual objects, ornaments, and cooking utensils. The Gabrielino profited well from trading steatite since it was valued so much by groups throughout southern California (Bean and Smith 1978; Kroeber 1976).

2.3.6 Ethnohistoric Period (1769 to Present)

Traditionally, the history of the state of California has been divided into three general periods: the Spanish Period (1769 to 1821), the Mexican Period (1822 to 1846), and the American Period (1848 to present) (Caughey 1970). The American Period is often further subdivided into additional phases: the nineteenth century (1848 to 1900), the early twentieth century (1900 to 1950), and the Modern Period (1950 to present). From an archaeological standpoint, all of these phases can be referred to together as the Ethnohistoric Period. This provides a valuable tool for archaeologists, as ethnohistory is directly concerned with the study of indigenous or non-Western peoples from a combined historical/anthropological viewpoint, which employs written documents, oral narrative, material culture, and ethnographic data for analysis.

European exploration along the California coast began in 1542 with the landing of Juan Rodriguez Cabrillo and his men at San Diego Bay. Sixty years after the Cabrillo expeditions, an expedition under Sebastian Viscaíno made an extensive and thorough exploration of the Pacific coast. Although the voyage did not extend beyond the northern limits of the Cabrillo track, Viscaíno had the most lasting effect upon the nomenclature of the coast. Many of his place names have survived, whereas practically every one of the names created by Cabrillo have faded from use. For instance, Cabrillo named the first (now) United States port he stopped at “San Miguel”; 60 years later, Viscaíno changed it to “San Diego” (Rolle 1969). The early European voyages observed Native Americans living in villages along the coast but did not make any substantial, long-lasting impact. At the time of contact, the Luiseño population was estimated to

have ranged from 4,000 to as many as 10,000 individuals (Bean and Shipek 1978; Kroeber 1976).

The historic background of the project area began with the Spanish colonization of Alta California. The first Spanish colonizing expedition reached southern California in 1769 with the intention of converting and civilizing the indigenous populations, as well as expanding the knowledge of and access to new resources in the region (Brigandi 1998). As a result, by the late eighteenth century, a large portion of southern California was overseen by Mission San Luis Rey (San Diego County), Mission San Juan Capistrano (Orange County), and Mission San Gabriel (Los Angeles County), who began colonization the region and surrounding areas (Chapman 1921).

Up until this time, the only known way to feasibly travel from Sonora to Alta California was by sea. In 1774, Juan Bautista de Anza, an army captain at Tubac, requested and was given permission by the governor of the Mexican State of Sonora to establish an overland route from Sonora to Monterey (Chapman 1921). In doing so, Juan Bautista de Anza passed through Riverside County and described the area in writing for the first time (Caughey 1970; Chapman 1921). In 1797, Father Presidente Lausen (of Mission San Diego de Alcalá), Father Norberto de Santiago, and Corporal Pedro Lisalde (of Mission San Juan Capistrano) led an expedition through southwestern Riverside County in search of a new mission site to establish a presence between San Diego and San Juan Capistrano (Engelhardt 1921). Their efforts ultimately resulted in the establishment of Mission San Luis Rey in Oceanside, California.

Each mission gained power through the support of a large, subjugated Native American workforce. As the missions grew, livestock holdings increased and became increasingly vulnerable to theft. In order to protect their interests, the southern California missions began to expand inland to try and provide additional security (Beattie and Beattie 1939; Caughey 1970). In order to meet their needs, the Spaniards embarked on a formal expedition in 1806 to find potential locations within what is now the San Bernardino Valley. As a result, by 1810, Father Francisco Dumetz of Mission San Gabriel had succeeded in establishing a religious site, or capilla, at a Cahuilla rancheria called Guachama (Beattie and Beattie 1939). San Bernardino Valley received its name from this site, which was dedicated to San Bernardino de Siena by Father Dumetz. The Guachama rancheria was located in present-day Bryn Mawr in San Bernardino County.

These early colonization efforts were followed by the establishment of estancias at Puente (circa 1816) and San Bernardino (circa 1819) near Guachama (Beattie and Beattie 1939). These efforts were soon mirrored by the Spaniards from Mission San Luis Rey, who in turn established a presence in what is now Lake Elsinore, Temecula, and Murrieta (Chapman 1921). The indigenous groups who occupied these lands were recruited by missionaries, converted, and put to work in the missions (Pourade 1961). Throughout this period, the Native American populations were decimated by introduced diseases, a drastic shift in diet resulting in poor nutrition, and social conflicts due to the introduction of an entirely new social order (Cook

1976).

Mexico achieved independence from Spain in 1822 and became a federal republic in 1824. As a result, both Baja and Alta California became classified as territories (Rolle 1969). Shortly thereafter, the Mexican Republic sought to grant large tracts of private land to its citizens to begin to encourage immigration to California and to establish its presence in the region. Part of the establishment of power and control included the desecularization of the missions circa 1832. These same missions were also located on some of the most fertile land in California and, as a result, were considered highly valuable. The resulting land grants, known as "ranchos," covered expansive portions of California and by 1846, more than 600 land grants had been issued by the Mexican government. Rancho Jurupa was the first rancho to be established and was issued to Juan Bandini in 1838. Although Bandini primarily resided in San Diego, Rancho Jurupa was located in what is now Riverside County (Pourade 1963). A review of Riverside County place names quickly illustrates that many of the ranchos in Riverside County lent their names to present-day locations, including Jurupa, El Rincon, La Sierra, El Sobrante de San Jacinto, La Laguna (Lake Elsinore), Santa Rosa, Temecula, Pauba, San Jacinto Nuevo y Potrero, and San Jacinto Viejo (Gunther 1984). As was typical of many ranchos, these were all located in the valley environments within western Riverside County.

The treatment of Native Americans grew worse during the Rancho Period. Most of the Native Americans were forced off of their land or put to work on the now privately-owned ranchos, most often as slave labor. In light of the brutal ranchos, the degree to which Native Americans had become dependent upon the mission system is evident when, in 1838, a group of Native Americans from Mission San Luis Rey petitioned government officials in San Diego to relieve suffering at the hands of the rancheros:

> We have suffered incalculable losses, for some of which we are in part to be blamed for because many of us have abandoned the Mission … We plead and beseech you … to grant us a Rev. Father for this place. We have been accustomed to the Rev. Fathers and to their manner of managing the duties. We labored under their intelligent directions, and we were obedient to the Fathers according to the regulations, because we considered it as good for us. (Brigandi 1998:21)

Native American culture had been disrupted to the point where they could no longer rely upon prehistoric subsistence and social patterns. Not only does this illustrate how dependent the Native Americans had become upon the missionaries, but it also indicates a marked contrast in the way the Spanish treated the Native Americans compared to the Mexican and United States ranchers. Spanish colonialism (missions) is based upon utilizing human resources while integrating them into their society. The Mexican and American ranchers did not accept Native Americans into their social order and used them specifically for the extraction of labor,

resources, and profit. Rather than being incorporated, they were either subjugated or exterminated (Cook 1976).

By 1846, tensions between the United States and Mexico had escalated to the point of war (Rolle 1969). In order to reach a peaceful agreement, the Treaty of Guadalupe Hidalgo was put into effect in 1848, which resulted in the annexation of California to the United States. Once California opened to the United States, waves of settlers moved in searching for gold mines, business opportunities, political opportunities, religious freedom, and adventure (Rolle 1969; Caughey 1970). By 1850, California had become a state and was eventually divided into 27 separate counties. While a much larger population was now settling in California, this was primarily in the central valley, San Francisco, and the Gold Rush region of the Sierra Nevada mountain range (Rolle 1969; Caughey 1970). During this time, southern California grew at a much slower pace than northern California and was still dominated by the cattle industry established during the earlier rancho period. However, by 1859, the first United States Post Office in what would eventually become Riverside County was set up at John Magee's store on the Temecula Rancho (Gunther 1984).

During the same decade, circa 1852, the Native Americans of southern Riverside County, including the Luiseño and the Cahuilla, thought they had signed a treaty resulting in their ownership of all lands from Temecula to Aguanga east to the desert, including the San Jacinto Valley and the San Gorgonio Pass. The Temecula Treaty also included food and clothing provisions for the Native Americans. However, Congress never ratified these treaties, and the promise of one large reservation was rescinded (Brigandi 1998).

With the completion of the Southern Pacific Railroad in 1869, southern California saw its first major population expansion. The population boom continued circa 1874 with the completion of connections between the Southern Pacific Railroad in Sacramento to the transcontinental Central Pacific Railroad in Los Angeles (Rolle 1969; Caughey 1970). The population influx brought farmers, land speculators, and prospective developers to the region. As the Jurupa area became more and more populated, circa 1870, Judge John Wesley North and a group of associates founded the city of Riverside on part of the former rancho.

Although the first orange trees were planted in Riverside County circa 1871, it was not until a few years later when a small number of Brazilian navel orange trees were established that the citrus industry truly began in the region (Patterson 1971). The Brazilian naval orange was well suited to the climate of Riverside County and thrived with assistance from several extensive irrigation projects. At the close of 1882, an estimated half a million citrus trees were present in California. It is estimated that nearly half of that population was in Riverside County. Population growth and 1880s tax revenue from the booming citrus industry prompted the official formation of Riverside County in 1893 out of portions of what was once San Bernardino County (Patterson 1971).

Shortly thereafter, with the start of World War I, the United States began to develop a military presence in Riverside County with the construction of March Air Reserve Base. During

World War II Camp Haan and Camp Anza were constructed in what is now the current location (of the National Veteran's Cemetery. In the decades that followed, populations spread throughout the county into Lake Elsinore, Corona, Norco, Murrieta, and Wildomar. However, a significant portion of the county remained largely agricultural well into the 1970s. Following the 1970s, Riverside saw a period of dramatic population increase as the result of new development, more than doubling the population of the county with a population of over 1.3 million residents (Patterson 1971).

General History of the Wildomar Area

The Wildomar town site was recorded in December 1885. The name "Wildomar" was derived by combining the names of the new town's founders, "WIL" for William Collier, "DO" for Donald Graham, and "MAR" for Margaret Collier Graham, wife of Donald Graham and sister of William Collier (Gunther 1984). The proprietors of Wildomar were supporters of the temperance movement and incorporated into every deed of acreage property, as well as the town lots, a "no saloon" clause. As a result, the early population of Wildomar was made up mainly of prohibitionists. At the time, the town had a rather large Quaker population who mainly came from West Branch, Iowa (Gunther 1984).

In 1886, a new school, post office, and railroad depot were built and by 1887, Wildomar could boast a large hotel, livery stable, blacksmith shop, numerous stores, a lumberyard, and a park (Gunther 1984). In the same year, a map of the Santa Rosa addition to Wildomar was produced that included an addition of about 1,500 acres that were purchased from Parker Deer. This new map was recorded in 1892. Throughout the early twentieth century, the railroad that served as the foundation for the development of Wildomar was plagued by washouts, and within a few years, the rails that traveled south from Temecula to San Diego were abandoned. This eventually slowed the development of the town and rail service to Wildomar was abandoned by 1935. However, with the completion of Interstate 15 in the mid-1980s, the region began to prosper again. The City of Wildomar voted to incorporate in 2008, becoming the 25th city in Riverside County (City of Wildomar 2018).

2.4 Research Goals

The primary goal of the research design is to attempt to understand the way in which humans have used the land and resources within the project area through time, as well as to aid in the determination of resource significance. For the current project, the study area under investigation is the western portion of Riverside County. The scope of work for the archaeological program conducted for the Wildomar Trail Project included an intensive pedestrian survey of the 10.056-acre property. Given the area involved and the narrow focus of the cultural resources study, the research design for this project was necessarily limited and general in nature. Since the main objective of the investigation was to identify the presence of and potential impacts to cultural resources, the goal here is not necessarily to answer wide-

reaching theories regarding the development of early southern California, but to investigate the role and importance of the identified resources. Although survey-level investigations are limited in terms of the amount of information available, several specific research questions were developed that could be used to guide the initial investigations of any observed cultural resources. The following research questions take into account the size and location of the project.

Research Questions:

- Can located cultural resources be situated with a specific time period, population, or individual?
- Do the types of located cultural resources allow a site activity/function to be determined from a preliminary investigation? What are the site activities? What is the site function? What resources were exploited?
- How do the located sites compare to others reported from different surveys conducted in the area?
- How do the located sites fit existing models of settlement and subsistence for valley environments of the region?

Data Needs

At the survey level, the principal research objective is a generalized investigation of changing settlement patterns in both the prehistoric and historic periods within the study area. The overall goal is to understand settlement and resource procurement patterns of the project area occupants. Therefore, adequate information on site function, context, and chronology from an archaeological perspective is essential for the investigation. The fieldwork and archival research were undertaken with these primary research goals in mind:

1) To identify cultural resources occurring within the project;
2) To determine, if possible, site type and function, context of the deposit, and chronological placement of each cultural resource identified;
3) To place each cultural resource identified within a regional perspective; and
4) To provide recommendations for the treatment of each of the cultural resources identified.

3.0 METHODOLOGY

The archaeological program for the Wildomar Trail Project consisted of an institutional records search, a SLF search, an intensive pedestrian survey of the 10.056-acre project, and preparation of a technical study. This archaeological study conformed to the City of Wildomar environmental guidelines. Statutory requirements of CEQA and subsequent legislation (Section 15064.5) were followed in evaluating the significance of cultural resources. Specific definitions for archaeological resource type(s) used in this report are those established by the State Historic Preservation Office (SHPO 1995).

3.1 Archaeological Records Search

The in-house records search conducted by BFSA from data compiled from the EIC was reviewed for an area of one mile surrounding the project in order to determine the presence of any previously recorded archaeological sites. Results of the in-house records search are provided in Appendix B and discussed in Section 4.1. An updated records search was requested from the EIC, and the results are still pending. The EIC search also included a standard review of the National Register of Historic Places and the Office of Historic Preservation Historic Property Directory. Land patent records, held by the Bureau of Land Management (BLM) and accessible through the BLM General Land Office (GLO) website, were also reviewed for pertinent project information. In addition, the BFSA research library was consulted for any relevant historical information.

3.2 Field Methodology

In accordance with City of Wildomar and CEQA review requirements, an intensive pedestrian reconnaissance was conducted that employed a series of parallel survey transects spaced between five and 10-meter intervals to locate archaeological sites within the project. The archaeological survey of the project was conducted on October 13, 2021. The entire project was covered by the survey process and photographs were taken to document project conditions during the survey (see Section 4.2). The subject property has been disturbed by past uses that include grading and deposition of soil in the center of the property and rural residential uses on the east and west portions of the property. The entire property has been cleared and partially graded in the past.

3.3 Report Preparation and Recordation

This report contains information regarding previous studies, statutory requirements for the project, a brief description of the setting, research methods employed, and the overall results of the survey. The report includes all appropriate illustrations and tabular information needed to make a complete and comprehensive presentation of these activities, including the methodologies employed and the personnel involved. A copy of this report will be placed at the

EIC at UCR. Any newly recorded sites or sites requiring updated information will be recorded on the appropriate Department of Parks and Recreation site forms, which will be filed at the EIC.

3.4 Native American Consultation

A SLF search was also requested from the NAHC to determine if any recorded Native American sacred sites or locations of religious or ceremonial importance are present within the project. The NAHC SLF results were negative for the presence of Native American sacred sites or locations of religious or ceremonial importance. All correspondence is provided in Appendix C.

3.5 Applicable Regulations

Resource importance is assigned to districts, sites, buildings, structures, and objects that possess exceptional value or quality illustrating or interpreting the heritage of Riverside County in history, architecture, archaeology, engineering, and culture. A number of criteria are used in demonstrating resource importance. Specifically, criteria outlined in CEQA provide the guidance for making such a determination. The following sections detail the CEQA criteria that a resource must meet in order to be determined important.

3.5.1 California Environmental Quality Act

According to CEQA (§15064.5a), the term "historical resource" includes the following:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources (Public Resources Code SS5024.1, Title 14 CCR. Section 4850 et seq.).
2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3) Any object, building, structure, site, area, place, record, or manuscript, which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Public Resources Code SS5024.1, Title 14, Section 4852) including the following:

a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
b) Is associated with the lives of persons important in our past;
c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
d) Has yielded, or may be likely to yield, information important in prehistory or history.

4) The fact that a resource is not listed in, or determined eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1[k] of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in Section 5024.1[g] of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Section 5020.1(j) or 5024.1.

According to CEQA (§15064.5b), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. CEQA defines a substantial adverse change as:

1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

2) The significance of an historical resource is materially impaired when a project:

a) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or
b) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or,

c) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

Section 15064.5(c) of CEQA applies to effects on archaeological sites and contains the following additional provisions regarding archaeological sites:

1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).
2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, Section 15126.4 of the guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.
3) If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.
4) If an archaeological resource is neither a unique archaeological nor historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Section 15064.5 (d) and (e) contain additional provisions regarding human remains. Regarding Native American human remains, paragraph (d) provides:

(d) When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the NAHC as provided in Public Resources Code SS5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the NAHC. Action implementing such an agreement is exempt from:

1) The general prohibition on disinterring, disturbing, or removing human

remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).

2) The requirement of CEQA and the Coastal Act.

4.0 RESULTS

4.1 Records Search Results

An archaeological in-house records search for the project and the surrounding area within a one-mile radius was conducted by BFSA by compiling data from the EIC at UCR. The search results identified eight cultural resources within one-mile of the project (Table 4.1–1). The records search indicated that none of these sites are located within the APE. The cultural resources identified within one mile of the project consist of a historic artifact scatter, two prehistoric artifact lithic scatters, three prehistoric isolates, a historic residential complex, and the historic Oak Springs Ranch.

Table 4.1–1
Archaeological Sites Located Within One Mile
of the Wildomar Trail Project

Site	Description
P-33-008654	Historic artifact scatter
P-33-011434 and P-33-017366	Prehistoric artifact lithic scatters
P-33-011435; P-33-015304; and P-33-015305	Prehistoric isolates
P-33-016988	Historic residential complex
P-33-020991	Historic Oak Springs Ranch

The records search results also indicate that a total of 46 cultural resource studies have been conducted within a one-mile radius of the project. None of the previous studies include the current APE.

An updated EIC records search has been requested, and the results are pending. The in-house data from past projects within the project vicinity indicate that the subject property has not been previously studied, and no known cultural resources are recorded within it. Additional research was undertaken to assess the project's sensitivity for cultural resources. BFSA reviewed the following sources to help assess the potential for cultural resources within the property:

- The National Register of Historic Places index;
- The Built Environment Resources Directory;
- Historic USGS data;
- Bureau of Land Management/General Land Office land patents; and
- Historic aerial photographs (1967, 1978, 1982, 1996, 2002, 2005, 2009, 2010, 2012, 2014, 2016, and 2018).

The listed sources did not indicate the presence of archaeological resources within the project. The complete records search results are provided in Appendix B.

Historic aerial photographs dating between 1967 and 2018 were consulted. In 1967, it appears the property has been graded along the western parcel, but no structures are clearly visible. By 1978, a residence is present in the southwestern corner along with four associated structures; three of these structures line up directly north of the residence and one structure appears northeast of the residence on the central parcel. There also appears to be another structure in the eastern parcel in the southeast area of the property. The 1982 and 1996 aerials show no change, however, in the 2002 aerial, the structure in the southeast parcel is no longer present. The 2005 aerial depicts no change, but by 2009, one of the structures in the western parcel of the property (between where the two current sheds were identified during the survey) is no longer present. The 2010 to 2012 aerials depict no change, but in the 2014 aerial, the structure northeast of the residence on the central parcel is no longer present and in its place is the foundation that was identified during the survey. The 2018 and 2019 aerial photographs depict the foundation on the central parcel as well and reflect what was identified during the survey. No aerial photographs can confirm the exact date of construction of the old foundation noted on the property; however, the first confirmed date of construction is less than the 50-year age threshold date for a structure to be considered historic under CEQA.

The records search and literature review suggest that there is a low potential for prehistoric sites to be situated within the APE. The only prehistoric resources located within one mile of the project are isolated artifacts and lithic scatters. Prehistoric sites within the area generally are situated near permanent water sources and bedrock outcroppings, which do not occur within the APE. Although the potential for cultural resources does exist, the clearing and grading of the APE has likely impacted potential resources within the subject property.

A SLF search was also requested from the NAHC to determine if any recorded Native American sacred sites or locations of religious or ceremonial importance are present within the project. The NAHC SLF results were negative for the presence of Native American sacred sites or locations of religious or ceremonial importance. All correspondence is provided in Appendix C.

4.2 Results of the Field Survey

Principal Investigator Brian F. Smith conducted the pedestrian survey of the project on October 13, 2021. Aerial photographs, maps, and a compass permitted orientation and location of project boundaries. The entire property was surveyed in five to 10-meter interval transects. All exposed ground surfaces, including rodent burrows and disturbed areas, were carefully inspected. A survey form, field notes, and photographs documented the survey work undertaken. The topography of the project was noted as generally flat and previously graded and developed. The subject property has been disturbed by past uses that include grading and deposition of soil in the center of the property and rural residential uses on the east and west portions of the

property (Plate 4.2–1). The entire property has been cleared and partially graded in the past. No Native American sites, features, or artifacts were observed on the property.

The property appears to have consisted of three parcels in the past. The eastern parcel had a structure present in the past based upon the 1978 aerial photograph; however, the structure has been removed. The central parcel did include a foundation that appears to be historic in age (Plate 4.2–2). The structure has been removed and the foundation is all that remains. The central parcel has evidence of corralling of animals (horses) (Plate 4.2–3). Two sheds remain on the western parcel that were likely used for the keeping of animals. The north shed has a poured concrete entry with footprints and horseshoe prints (along with a date of 2004), suggesting the association with horse use. The western parcel also has a more modern residence that is currently occupied (Plate 4.2–4).

The archaeological survey identified one possible historic foundation, but no other historic features were noted. The foundation was determined to fall short of the historic threshold age of 50 years old or older. No significant historic features were noted, and mitigation measures are not required. Monitoring of grading is recommended because past uses may have masked prehistoric sites or other historic features. No prehistoric cultural resources were discovered as a result of the survey. The lack of prehistoric sites is likely due to the absence food, water, bedrock, or lithic resources on the property.



Plate 4.2–1: View of the northeastern corner of the property showing disturbed areas and a stockpile of graded soil.



Plate 4.2–2: View of the potentially historic foundation.



Plate 4.2–3: View of the north section of the property showing the disturbed areas that have been cleared and appear to have had animals, likely horses, corralled in the past.



Plate 4.2–4: View of the modern residence on the west side of the property.

5.0 RECOMMENDATIONS

The current project proposes the construction of multifamily and commercial developments (APNs 376-410-015 to -017 and -021). The archaeological survey identified one possible historic foundation within the APE, but no other historic features were noted. The foundation has been determined to not meet the age threshold to qualify as historic under CEQA. No significant historic features were noted, and mitigation measures are not required. Further, the in-house records search compiled from EIC data did not indicate that any resources have ever been recorded within the APE. Most of the resources identified within one mile of the APE are historic buildings and prehistoric isolates and lithic scatters. The records search also indicated that although the APE had not been previously surveyed, a total of 46 cultural resource studies have been conducted within one mile of the APE. Therefore, based upon the records search data, an adequate archaeological sample of the surrounding area indicates that the area contains a minimal number of cultural resources mostly associated with the historic development of the region.

The archaeological study was completed in accordance with the City of Wildomar environmental guidelines and CEQA significance evaluation criteria. Although there is little potential for cultural resources to be present/disturbed by the proposed project due to previous grading activities and the absence of recorded cultural resources within the APE, monitoring of grading is recommended because past uses may have masked prehistoric sites or other historic features. Monitoring of grading is recommended to a depth of no more than five feet from the current ground surface, unless the consulting archeologist determines that, during the grading process, the potential to encounter cultural resources is exhausted and formational soil horizons were encountered.

6.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this archaeological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



November 24, 2021

Brian F. Smith
Principal Investigator

Date

7.0 REFERENCES

Bean, Lowell John
1978 Cahuilla. In *California*, edited by Robert F. Heizer, pp. 575–587. Handbook of North American Indians, Vol. 8. William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Bean, Lowell John and Charles R. Smith
1978 Gabrielino. In *Handbook of North American Indians*, Vol 8. California, edited by Robert F. Heizer. Smithsonian Institution, Washington, D.C.

Bean, Lowell John and Florence C. Shipek
1978 Luiseño. In *California*, edited by Robert F. Heizer, pp. 550–563. Handbook of North American Indians, Vol. 8. William C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Beattie, George W. and Helen P. Beattie
1939 *Heritage of the Valley: San Bernardino's First Century.* Biobooks, Oakland, California.

Brian F. Smith and Associates, Inc.
Various dates. Research library holdings including Sanborn maps, USGS maps, aerial photographs, city directories, published regional histories, and geologic and paleontological references.

Brigandi, Phil
1998 *Temecula: at the Crossroads of History*. Heritage Media Corporation, Encinitas, California.

Bureau of Land Management/General Land Office
Various dates. Land Patent Records and Plat Maps. Accessed online at http://www.glo records.blm.gov.

Byrd, Brian F.
1998 Harvesting the Littoral Landscape During the Late Holocene: New Perspectives from Northern San Diego County. *Journal of California and Great Basin Anthropology* 20(2):195-218.

Caughey, John W.
1970 *California, A Remarkable State's Life History*. Prentice-Hall Inc., Englewood Cliffs, New Jersey.

Chapman, Charles E.
1921 *A History of California: The Spanish Period*. The Macmillan Company, New York.

City of Wildomar
2018 City of Wildomar: A Bit of History. Electronic document, http://www.cityofwildomar.org/community/about_our_city/history/, accessed June 13, 2018.

Cook, Sherburne F.
1976 *The Conflict Between the California Indian and White Civilization*. University of California Press, Berkeley and Los Angeles, California.

Engelhardt, Zephyrin
1921 *San Luis Rey Mission, The King of the Missions*. James M. Barry Company, San Francisco, California.

Erlandson, Jon M. and Roger H. Colten (editors)
1991 An Archaeological Context for Archaeological Sites on the California Coast. In *Hunter-Gatherers of Early Holocene Coastal California*, edited by Jon M. Erlandson and Roger H. Colten. Perspectives in California Archaeology, Volume 1, Institute of Archaeology, University of California, Los Angeles.

Fagan, Brian M.
1991 *Ancient North America: The Archaeology of a Continent*. Thames and Hudson, London.

Gallegos, Dennis R.
1987 A Review and Synthesis of Environmental and Cultural Material for the Batiquitos Lagoon Region. In *San Dieguito-La Jolla: Chronology and Controversy*. Editor. San Diego County Archaeological Society Research Paper No. 1.

1992 Patterns and Implications of Coastal Settlement in San Diego County: 9000 to 1300 Years Ago. In *Essays on the Prehistory of Maritime California*, edited by Terry Jones. Center for Archaeological Research, Davis, California.

Gallegos, Dennis R. and Carolyn E. Kyle
1988 Five Thousand Years of Maritime Subsistence at Ballast Point Prehistoric Site SDI-48 (W-164) San Diego, California. Unpublished report on file at the South Coastal Information Center at San Diego State University, San Diego, California.

Gunther, Jane Davies
1984 *Riverside County, California, Place Names*. Rubidoux Printing Co., Riverside, California.

Handley, Charles
1967 The Sun City Story. *Sun City News* 2 February:6, 15–19. Sun City, California.

Harris, Marvin
1991 *Cultural Anthropology*. HarperCollins Publishers Inc., New York, New York.

Koerper, Henry C., Paul E. Langenwalter II, and Adella B. Schroth
1986 The Agua Hedionda Project Archaeological Investigations at CA-SDI-5353 and CA-SDI-9649. Unpublished report on file at the South Coastal Information Center at San Diego State University, San Diego, California.

Kowta, Makoto
1969 The Sayles Complex: A Late Millingstone Assemblage from Cajon Pass, and the Econological Implications of its Scraper Planes. *University of California Prehistory* (6), Salinas, California.

Kroeber, A.L.
1976 *Handbook of the Indians of California*. Reprinted. Dover Editions, Dover Publications, Inc., New York. Originally published 1925, Bulletin No. 78, U.S. Government Printing Office, Washington, D.C.

Laylander, Don (editor)
1985 Some Linguistic Approaches to Southern California's Prehistory. *San Diego State University Cultural Resource Management Casual Papers* 2(1):14–58.

Laylander, Don, Jerry Schaefer, Nick Doose, Jessica Hennessey, and Ian Scharlotta
2014 A Regional Synthesis of Prehistoric Archaeological Landscapes in the Jacumba/McCain Valley Region, San Diego and Imperial Counties, California. Prepared for the Bureau of Land Management and San Diego Gas & Electric by ASM Affiliates, Carlsbad, California.

Martin, Paul S.
1967 Prehistoric Overkill. In *Pleistocene Extinctions: The Search for a Cause*, edited by Paul S. Martin and H.E. Wright. Yale University Press, New Haven.

1973 The Discovery of America. *Science* 179(4077):969–974.

Masters, Patricia M.
1983 Detection and Assessment of Prehistoric Artifact Sites off the Coast of Southern California. In *Quaternary Coastlines and Marine Archaeology,* edited by Patricia M. Masters and N.C. Fleming, pp. 1–49, Academic Press, New York.

Meighan, Clement W.
1954 A Late Complex in Southern California Prehistory. *Southwestern Journal of Anthropology* 10(2).

Miller, Jaquelin Neva
1966 *The Present and Past Molluscan Faunas and Environments of Four Southern*

California Coastal Lagoons. Master's Thesis, University of California at San Diego.

Moratto, Michael J.
1984 *California Archaeology*. Academic Press, New York.

Moriarty, James R., III
1966 Culture Phase Divisions Suggested by Topological Change Coordinated with Stratigraphically Controlled Radiocarbon Dating in San Diego. *Anthropological Journal of Canada* 4(4):20–30.

Morton, D.M. and F.K. Miller
2006 Geologic map of the San Bernardino and Santa Ana 30' x 60' quadrangles, California: U.S. Geological Survey Open-File Report 06-1217, scale 1:100,000.

Moss, M.L. and J. Erlandson
1995 Reflections on North American Coast Prehistory. *Journal of World Prehistory* 9(1):1-46.

Patterson, Tom
1971 *A Colony for California: Riverside's First Hundred Years.* Press-Enterprise, Riverside, California.

Pourade, Richard F.
1961 Time of the Bells. In *The History of San Diego* (Volume 2). Union-Tribune Publishing Company, San Diego, California.

1963 The Silver Dons. In *The History of San Diego* (Volume 3). Union-Tribune Publishing Company, San Diego, California.

Raven-Jennings, Shelly, Brian F. Smith, and Johnna L. Buysse
1996 The Results of a Cultural Resource Study at the 4S Ranch, Rancho Bernardo, County of San Diego. Unpublished report on file at the South Coastal Information Center at San Diego State University, San Diego, California.

Rogers, Malcolm J.
1939 Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas. In *San Diego Museum Papers* (No. 3 – 1989 printing). San Diego Museum of Man, San Diego, California.

Rolle, Andrew F.
1969 *California: A History*. 2nd ed. Thomas Y. Crowell Company, New York.

Shumway, George, Carl L. Hubbs, and James R. Moriarty III
1961 Scripps Estates Site, San Diego, California: A La Jolla Site Dated 5,460-7,370 Years Before the Present. In *Annals of the New York Academy of Sciences* 93(3):41-131.

Smith, Brian F. and James R. Moriarty, III
1985 The Archaeological Excavations at Batiquitos Pointe and Batiquitos Bluffs. Unpublished report on file at the City of Carlsbad.

State Historic Preservation Office (SHPO)
1995 *Instructions for Recording Historical Resources*. Office of Historic Preservation, Sacramento.

Strong, William Duncan
1929 *Aboriginal Society in Southern California.* Publications in American Archaeology and Ethnology No. 26, University of California, Berkeley.

Sutton, Mark Q.
2009 People and Language: Defining the Takic Expansion into Southern California. *Pacific Coast Archaeological Society Quarterly* 41(2, 3):33–93.

2011a The Palomar Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly* 44(4):1–74.

2011b *A Prehistory of North America.* Routledge, New York.

Sutton, Mark Q. and Jill K. Gardener
2010 Reconceptualizing the Encinitas Tradition of Southern California. *Pacific Coast Archaeological Society Quarterly* 42(4):1–64.

True, Delbert L.
1958 An Early Complex in San Diego County, California. *American Antiquity* 23(3).

1980 The Pauma Complex in Northern San Diego County. *Journal of New World Archaeology* 3(4):1–39

Wallace, William J.
1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11:214–230.

Warren, Claude N. (editor)
1968 Cultural Tradition and Ecological Adaptation on the Southern Coast. In Archaic Prehistory in the Western United States, C.I. Williams ed. *Eastern New Mexico University Contributions in Anthropology* 1(3):1–14.

Warren, Claude N. and D.L. True
1961 The San Dieguito Complex and its Place in California Prehistory. In *Archaeological Survey Annual Report 1960-1961*. University of California Press, Los Angeles, California.

Warren, Claude N., D.L. True, and Ardith A. Eudey
1961 Early Gathering Complexes of Western San Diego County: Results and Interpretations of an Archaeological Survey. *Archaeological Survey Annual Report 1960-1961*. University of California, Los Angeles.

APPENDIX A

Qualifications of Key Personnel

Brian F. Smith, MA

Owner, Principal Investigator

Brian F. Smith and Associates, Inc.
14010 Poway Road • Suite A •
Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: bsmith@bfsa-ca.com

Education

Master of Arts, History, University of San Diego, California **1982**

Bachelor of Arts, History, and Anthropology, University of San Diego, California **1975**

Professional Memberships

Society for California Archaeology

Experience

Principal Investigator **1977–Present**
Brian F. Smith and Associates, Inc. **Poway, California**

Brian F. Smith is the owner and principal historical and archaeological consultant for Brian F. Smith and Associates. Over the past 32 years, he has conducted over 2,500 cultural resource studies in California, Arizona, Nevada, Montana, and Texas. These studies include every possible aspect of archaeology from literature searches and large-scale surveys to intensive data recovery excavations. Reports prepared by Mr. Smith have been submitted to all facets of local, state, and federal review agencies, including the US Army Corps of Engineers, the Bureau of Land Management, the Bureau of Reclamation, the Department of Defense, and the Department of Homeland Security. In addition, Mr. Smith has conducted studies for utility companies (Sempra Energy) and state highway departments (CalTrans).

Professional Accomplishments

These selected major professional accomplishments represent research efforts that have added significantly to the body of knowledge concerning the prehistoric life ways of cultures once present in the Southern California area and historic settlement since the late 18th century. Mr. Smith has been principal investigator on the following select projects, except where noted.

Downtown San Diego Mitigation and Monitoring Reporting Programs: Large numbers of downtown San Diego mitigation and monitoring projects, some of which included Broadway Block (2019), 915 Grape Street (2019), 1919 Pacific Highway (2018), Moxy Hotel (2018), Makers Quarter Block D (2017), Ballpark Village (2017), 460 16th Street (2017), Kettner and Ash (2017), Bayside Fire Station (2017), Pinnacle on the Park (2017), IDEA1 (2016), Blue Sky San Diego (2016), Pacific Gate (2016), Pendry Hotel (2015), Cisterra Sempra Office Tower (2014), 15th and Island (2014), Park and G (2014), Comm 22 (2014), 7th and F Street Parking (2013), Ariel Suites (2013), 13th and Marker (2012), Strata (2008), Hotel Indigo (2008), Lofts at 707 10th Avenue Project (2007), Breeza (2007), Bayside at the Embarcadero (2007), Aria (2007), Icon (2007), Vantage Pointe (2007), Aperture (2007), Sapphire Tower (2007), Lofts at 655 Sixth Avenue (2007), Metrowork (2007), The Legend (2006), The Mark (2006), Smart Corner (2006), Lofts at 677 7th Avenue (2005), Aloft on Cortez Hill (2005), Front and Beech Apartments (2003), Bella Via Condominiums (2003), Acqua Vista Residential Tower (2003), Northblock Lofts (2003), Westin Park Place Hotel (2001), Parkloft

Apartment Complex (2001), Renaissance Park (2001), and Laurel Bay Apartments (2001).

1900 and 1912 Spindrift Drive: An extensive data recovery and mitigation monitoring program at the Spindrift Site, an important prehistoric archaeological habitation site stretching across the La Jolla area. The project resulted in the discovery of over 20,000 artifacts and nearly 100,000 grams of bulk faunal remains and marine shell, indicating a substantial occupation area (2013-2014).

San Diego Airport Development Project: An extensive historic assessment of multiple buildings at the San Diego International Airport and included the preparation of Historic American Buildings Survey documentation to preserve significant elements of the airport prior to demolition (2017-2018).

Citracado Parkway Extension: A still-ongoing project in the city of Escondido to mitigate impacts to an important archaeological occupation site. Various archaeological studies have been conducted by BFSA resulting in the identification of a significant cultural deposit within the project area.

Westin Hotel and Timeshare (Grand Pacific Resorts): Data recovery and mitigation monitoring program in the city of Carlsbad consisted of the excavation of 176 one-square-meter archaeological data recovery units which produced thousands of prehistoric artifacts and ecofacts, and resulted in the preservation of a significant prehistoric habitation site. The artifacts recovered from the site presented important new data about the prehistory of the region and Native American occupation in the area (2017).

The Everly Subdivision Project: Data recovery and mitigation monitoring program in the city of El Cajon resulted in the identification of a significant prehistoric occupation site from both the Late Prehistoric and Archaic Periods, as well as producing historic artifacts that correspond to the use of the property since 1886. The project produced an unprecedented quantity of artifacts in comparison to the area encompassed by the site, but lacked characteristics that typically reflect intense occupation, indicating that the site was used intensively for food processing (2014-2015).

Ballpark Village: A mitigation and monitoring program within three city blocks in the East Village area of San Diego resulting in the discovery of a significant historic deposit. Nearly 5,000 historic artifacts and over 500,000 grams of bulk historic building fragments, food waste, and other materials representing an occupation period between 1880 and 1917 were recovered (2015-2017).

Archaeology at the Padres Ballpark: Involved the analysis of historic resources within a seven-block area of the "East Village" area of San Diego, where occupation spanned a period from the 1870s to the 1940s. Over a period of two years, BFSA recovered over 200,000 artifacts and hundreds of pounds of metal, construction debris, unidentified broken glass, and wood. Collectively, the Ballpark Project and the other downtown mitigation and monitoring projects represent the largest historical archaeological program anywhere in the country in the past decade (2000-2007).

4S Ranch Archaeological and Historical Cultural Resources Study: Data recovery program consisted of the excavation of over 2,000 square meters of archaeological deposits that produced over one million artifacts, containing primarily prehistoric materials. The archaeological program at 4S Ranch is the largest archaeological study ever undertaken in the San Diego County area and has produced data that has exceeded expectations regarding the resolution of long-standing research questions and regional prehistoric settlement patterns.

Charles H. Brown Site: Attracted international attention to the discovery of evidence of the antiquity of man in North America. Site located in Mission Valley, in the city of San Diego.

Del Mar Man Site: Study of the now famous Early Man Site in Del Mar, California, for the San Diego Science Foundation and the San Diego Museum of Man, under the direction of Dr. Spencer Rogers and Dr. James R. Moriarty.

Old Town State Park Projects: Consulting Historical Archaeologist. Projects completed in the Old Town State Park involved development of individual lots for commercial enterprises. The projects completed in Old Town include Archaeological and Historical Site Assessment for the Great Wall Cafe (1992), Archaeological Study for the Old Town Commercial Project (1991), and Cultural Resources Site Survey at the Old San Diego Inn (1988).

Site W-20, Del Mar, California: A two-year-long investigation of a major prehistoric site in the Del Mar area of the city of San Diego. This research effort documented the earliest practice of religious/ceremonial activities in San Diego County (circa 6,000 years ago), facilitated the projection of major non-material aspects of the La Jolla Complex, and revealed the pattern of civilization at this site over a continuous period of 5,000 years. The report for the investigation included over 600 pages, with nearly 500,000 words of text, illustrations, maps, and photographs documenting this major study.

City of San Diego Reclaimed Water Distribution System: A cultural resource study of nearly 400 miles of pipeline in the city and county of San Diego.

Master Environmental Assessment Project, City of Poway: Conducted for the City of Poway to produce a complete inventory of all recorded historic and prehistoric properties within the city. The information was used in conjunction with the City's General Plan Update to produce a map matrix of the city showing areas of high, moderate, and low potential for the presence of cultural resources. The effort also included the development of the City's Cultural Resource Guidelines, which were adopted as City policy.

Draft of the City of Carlsbad Historical and Archaeological Guidelines: Contracted by the City of Carlsbad to produce the draft of the City's historical and archaeological guidelines for use by the Planning Department of the City.

The Mid-Bayfront Project for the City of Chula Vista: Involved a large expanse of undeveloped agricultural land situated between the railroad and San Diego Bay in the northwestern portion of the city. The study included the analysis of some potentially historic features and numerous prehistoric

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Audie Murphy Ranch, Riverside County, California: Project manager/director of the investigation of 1,113.4 acres and 43 sites, both prehistoric and historic—included project coordination; direction of field crews; evaluation of sites for significance based on County of Riverside and CEQA guidelines; assessment of cupule, pictograph, and rock shelter sites, co-authoring of cultural resources project report. February- September 2002.

Cultural Resources Evaluation of Sites Within the Proposed Development of the Otay Ranch Village 13 Project, San Diego County, California: Project manager/director of the investigation of 1,947 acres and 76 sites, both prehistoric and historic—included project coordination and budgeting; direction of field crews; assessment of sites for significance based on County of San Diego and CEQA guidelines; co-authoring of cultural resources project report. May-November 2002.

Cultural Resources Survey for the Remote Video Surveillance Project, El Centro Sector, Imperial County: Project manager/director for a survey of 29 individual sites near the U.S./Mexico Border for proposed video surveillance camera locations associated with the San Diego Border barrier Project—project coordination and budgeting; direction of field crews; site identification and recordation; assessment of potential impacts to cultural resources; meeting and coordinating with U.S. Army Corps of Engineers, U.S. Border Patrol, and other government agencies involved; co-authoring of cultural resources project report. January, February, and July 2002.

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Menifee West GPA, Riverside County, California: Project manager/director of the investigation of nine sites, both prehistoric and historic—included project coordination and budgeting; direction of field crews; assessment of sites

for significance based on County of Riverside and CEQA guidelines; historic research; co-authoring of cultural resources project report. January-March 2002.

Cultural Resources Survey and Test of Sites Within the Proposed French Valley Specific Plan/EIR, Riverside County, California: Project manager/director of the investigation of two prehistoric and three historic sites—included project coordination and budgeting; survey of project area; Native American consultation; direction of field crews; assessment of sites for significance based on CEQA guidelines; cultural resources project report in prep. July-August 2000.

Cultural Resources Survey and Test of Sites Within the Proposed Development of the Menifee Ranch, Riverside County, California: Project manager/director of the investigation of one prehistoric and five historic sites—included project coordination and budgeting; direction of field crews; feature recordation; historic structure assessments; assessment of sites for significance based on CEQA guidelines; historic research; co-authoring of cultural resources project report. February-June 2000.

Salvage Mitigation of a Portion of the San Diego Presidio Identified During Water Pipe Construction for the City of San Diego, California: Project archaeologist/director—included direction of field crews; development and completion of data recovery program; management of artifact collections cataloging and curation; data synthesis and authoring of cultural resources project report in prep. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Tyrian 3 Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Lamont 5 Project, Pacific Beach, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. April 2000.

Enhanced Cultural Resource Survey and Evaluation for the Reiss Residence Project, La Jolla, California: Project manager/director of the investigation of a single-dwelling parcel—included project coordination; assessment of parcel for potentially buried cultural deposits; authoring of cultural resources project report. March-April 2000.

Salvage Mitigation of a Portion of Site SDM-W-95 (CA-SDI-211) for the Poinsettia Shores Santalina Development Project and Caltrans, Carlsbad, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program; management of artifact collections cataloging and curation; data synthesis and authoring of cultural resources project report in prep. December 1999-January 2000.

Survey and Testing of Two Prehistoric Cultural Resources for the Airway Truck Parking Project, Otay Mesa, California: Project archaeologist/director—included direction of field crews; development and completion of testing recovery program; assessment of site for significance based on CEQA guidelines; authoring of cultural resources project report, in prep. December 1999-January 2000.

Cultural Resources Phase I and II Investigations for the Tin Can Hill Segment of the Immigration and Naturalization Services Triple Fence Project Along the International Border, San Diego County, California: Project manager/director for a survey and testing of a prehistoric quarry site along the border—NRHP eligibility assessment; project coordination and budgeting; direction of field crews; feature recordation; meeting and coordinating with U.S. Army Corps of Engineers; co-authoring of cultural resources project report. December 1999-January 2000.

Mitigation of a Prehistoric Cultural Resource for the Westview High School Project for the City of San Diego, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program including collection of material for specialized faunal and botanical analyses; assessment of sites for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; co-authoring of cultural resources project report, in prep. October 1999-January 2000.

Mitigation of a Prehistoric Cultural Resource for the Otay Ranch SPA-One West Project for the City of Chula Vista, California: Project archaeologist/director—included direction of field crews; development of data recovery program; management of artifact collections cataloging and curation; assessment of site for significance based on CEQA guidelines; data synthesis; authoring of cultural resources project report, in prep. September 1999-January 2000.

Monitoring of Grading for the Herschel Place Project, La Jolla, California: Project archaeologist/ monitor—included monitoring of grading activities associated with the development of a single- dwelling parcel. September 1999.

Survey and Testing of a Historic Resource for the Osterkamp Development Project, Valley Center, California: Project archaeologist/ director—included direction of field crews; development and completion of data recovery program; budget development; assessment of site for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report. July-August 1999.

Survey and Testing of a Prehistoric Cultural Resource for the Proposed College Boulevard Alignment Project, Carlsbad, California: Project manager/director —included direction of field crews; development and completion of testing recovery program; assessment of site for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report, in prep. July-August 1999.

Survey and Evaluation of Cultural Resources for the Palomar Christian Conference Center Project, Palomar Mountain, California: Project archaeologist—included direction of field crews; assessment of sites for significance based on CEQA guidelines; management of artifact collections cataloging and curation; data synthesis; authoring of cultural resources project report. July-August 1999.

Survey and Evaluation of Cultural Resources at the Village 2 High School Site, Otay Ranch, City of Chula Vista, California: Project manager/director —management of artifact collections cataloging and curation; assessment of site for significance based on CEQA guidelines; data synthesis; authoring of cultural resources project report. July 1999.

Cultural Resources Phase I, II, and III Investigations for the Immigration and Naturalization Services Triple Fence Project Along the International Border, San Diego County, California: Project manager/director for the survey, testing, and mitigation of sites along border—supervision of multiple field crews, NRHP eligibility assessments, Native American consultation, contribution to Environmental Assessment document, lithic and marine shell analysis, authoring of cultural resources project report. August 1997- January 2000.

Phase I, II, and II Investigations for the Scripps Poway Parkway East Project, Poway California: Project archaeologist/project director—included recordation and assessment of multicomponent prehistoric and historic sites; direction of Phase II and III investigations; direction of laboratory analyses including prehistoric and historic collections; curation of collections; data synthesis; coauthorship of final cultural resources report. February 1994; March-September 1994; September-December 1995.

APPENDIX B

Archaeological Records Search Results

(Deleted for Public Review; Bound Separately)

APPENDIX C

NAHC Sacred Lands File Search Results

(Deleted for Public Review; Bound Separately)

Appendix 6

Focused Cultural Survey

JM Research and Consulting

Jennifer Mermilliod, M.A.
4049 Almond Street, Suite 201
Riverside, CA 92501
Phone 951-233-6897
jennifer@jmrc.biz

MEMORANDUM

DATE: November 22, 2021

TO: Jeremy Krout
EPD Solutions, Inc.
2 Park Plaza, Suite 1120
Irvine, CA Orange, CA 92614

FROM: Jennifer Mermilliod, M.A., Principal Historian/Architectural Historian

SUBJECT: Focused Cultural Resources Survey – Historic Resources Assessment for the NWC Clinton Keith & Wildomar Trail Project, Wildomar, Riverside County, California

Dear Mr. Krout,

JM Research & Consulting (JMRC) completed a focused Cultural Resources Survey – Historic Resources Assessment (HRA) for the proposed NWC Clinton Keith & Wildomar Trail Project in Wildomar, Riverside County, which proposes the demolition of the existing site improvements and construction of a new mixed-use development. The project includes approximately 194,585 SF multi-family residential on the west portion and approximately 201,538 SF commercial, including retail and restaurant use, on the east portion of the approximately 9-acre consolidated site (APNs 376-410-015, -016, -017, -021).

The survey was requested by EPD Solutions based on the results of initial investigation for a Phase I-level Cultural Resources study, including archaeological investigation completed by others (Brian F. Smith and Associates [BFSA] 2021), which identified one property of historic age that would be demolished as part of the proposed project - 24850 Catt Road. This HRA acts as a companion study to complete the Cultural Resources investigation as part of the environmental review process in compliance with CEQA (PRC §21000, et seq.) to evaluate the property for significance and eligibility for historic designation and to analyze potential impacts of the proposed project.

Jennifer Mermilliod, M.A., Principal Historian/Architectural Historian, JMRC, who exceeds the Secretary of the Interior's Professional Qualifications Standards, acted as Principal Historic Consultant and both managed and completed the study, which included consultation, coordination, and compliance applicable and relevant to cultural resources planning (see resume, Attachment B). The intensive-level survey was conducted from October to November 2021 and included field survey and historic and building specific research in accordance with CEQA Guidelines. Research

and review of source material included previous cultural resources studies, Riverside County property records, historic and current newspapers, historic aerial photographs, and topographical maps, and local history, records, and maps accessible through the City of Wildomar and Wildomar Historical Society websites. Building permits were requested from the City of Wildomar but not received, and no permits for this property were on file with Riverside County. The survey area is outside the geographic boundaries covered by Sanborn Maps, and city directories are not available for Wildomar.

The project area is located within the south-central area of the City of Wildomar, which was founded on the La Laguna Rancho during the 1880s by Quaker brothers-in-law William Collier and Donald Graham, who were also involved in the founding of South Pasadena, after a split with Franklin Heald, who retained and developed Elsinore to the north. The local land boom that followed the coming of the railroad prompted the development of land and water throughout the region in the late-1880s. First dubbed 'Wildon,' a combination of the founders' first names, they were soon joined by William's sister and Donald's wife, Margaret, which led to the name of Wildomar. As many friends from Iowa soon emigrated upon invitation by Collier and Graham to the warmer climate, the new town soon became known as a Quaker colony. The early town was centered between Palomar Street and Grand Avenue, running northwest to southeast, and Gruwell and South Pasadena Streets, running southwest to northeast. The 120 acres was subdivided into 34 blocks of 50-foot-wide lots, and proximity to the railroad ensured brisk sales. At least one major addition by Townsend, Frame, and Starbuck added 50 lots to the southeast in 1887, and further improvements in 1887-88 contributed the Hotel Wildomar, a "Friends Church," a lumber business, and later, a brick yard, hardware store, and library. Like many towns born of the railroad, Wildomar suffered with the end of the boom in 1888 and remained a small agrarian town. Settlers in the 1920s introduced dryland farming, and the 1940s-1950s brought others seeking farm and rural alternatives to urban living. It was not until the 1970s that Wildomar experienced suburban residential development, and the postmodern housing tracts were carved among the many horse ranches. Modern revitalization efforts, which began in the 1980s, saw the incorporation of Wildomar as a city in 2008, and continue today with the transformation of its rural acreage.

Additional historic and building specific archival research under the current HRA revealed that, aside from a short-lived 1970s building on the east, all but the westernmost portion of the project area has remained undeveloped:

> 24850 Catt Road APN 376-410-015. In the latter 20th century, this westernmost 2.40-acre parcel (Parcel Map 36/69 PM No. 8705) was developed with a residence and multiple ancillary buildings and structures likely related to agriculture or ranching use. The property includes evidence of grading and clearing, and multiple ancillary structures and remnant fencing indicates the sheltering of animals, likely horses. Riverside County land and property records document that the existing single-family residence was constructed in 1962. Historic topographical maps and aerial images show the residence as well as a large, multi-divided structure to the rear (Ancillary 1; now partially demolished) by 1967. Two long structures aligned north-south, which were likely temporary canopies, appear for a short time in the 1970s on the rear balance of the parcel. By 1978, the extant building far to the rear (Ancillary 2) was constructed, though it's original L-shape configuration was modified to its current footprint by 2005, and another long rectangular rear building is shown that is no longer extant (demolished 2010-12). Additionally, a building, possibly another residence, was constructed on the footprint of the extant adjacent foundation (376-410-016; demolished 2012-14) that appears to be associated with 24850 Catt Road by common internal footpaths. The small shed (Ancillary 3) adjacent to the extant residence was added 1982-1996. Fieldwork confirmed that the commonly designed, simple Ranch style residence dates to the

1960s and is unaltered and in fair condition, although ancillary development associated with the use of the property was extensively modified or demolished from the 1970s-2000s.

The extant residence, ancillary structures, and ancillary remains were constructed in the 1960s at the end of the horse ranch and farming period and the brink of residential tract development in the modern period and were not found to be associated with individuals who have figured prominently in history. Therefore, the properties are not strongly associated with events that have made a significant contribution to the broad patterns of our national or state history or with significant persons in our past (NR/CR Criteria A,B/1,2). Although unaltered, the residence and ancillary buildings are of common design and construction and do not embody the distinctive characteristics of a type, period, or represent the work of a master, or possess high artistic value (NR/CR C/3). The results of research under this focused HRA study have not yielded, or predicted the likelihood of the previously graded and disturbed property to yield, information important in history or prehistory (NR/CR Criteria D/4; see also BFSA 2021). On the local level, the property is subject to the Chapter 15.88 of the City of Wildomar Municipal, specifically Section 15.88.030, which provides mandatory findings, like designation eligibility criteria, for the establishment of historic preservation districts; no provisions are provided for individual resources. The surrounding area is either vacant rural land or developed with modern residential or commercial construction as well as the I-15 freeway, and no potential exists for the property to contribute to a collective resource.

Based on the results of the HRA, 24850 Catt Road does not appear to be eligible for listing in the National Register of Historic Places (NR) or California Register of Historical Resources (CR) at any level, or for local designation under the Wildomar Municipal Code. The property has been assigned a California Historic Resources (CHR) code of ***6Z – Found ineligible for NR, CR, or Local designation through survey evaluation*** and fully documented on California Department of Parks and Recreation DPR forms (attached). The results of this focused study indicate that no further historic investigation is recommended.

The proposed NWC Clinton Keith & Wildomar Trail Project includes the demolition of all existing site improvements and redevelopment of the site for multi-family residential and commercial use. As 24850 Catt Road (376-410-015), including the related adjacent foundation slab (376-410-016), within the project area has been found ineligible for designation, the property is not considered a historic resource under CEQA, and no mitigation measures are recommended.

Please contact me should you need any clarification or further assistance.

Regards,



Jennifer Mermilliod, Principal, JMRC

Attachment A

DPR Forms

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI#
Trinomial
CHR Status Code 6Z
Other Listings
Review Code Reviewer Date

*Resource Name or # (Assigned by recorder) 24850 Catt Road

P1. Other Identifier:

*P2. Location: ☐ Not for Publication ☒ Unrestricted *a. County Riverside

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

*b. USGS 7.5' Quad Murrieta Date T 6S ; R 4W ; ¼ of ¼ of Sec 36 ; S.B. B.M.

c. Address 24850 Catt Road City Wildomar Zip Code 92595

d. UTM: (give more than one for large and/or linear resources) Zone ; mE/ mN/

e. Other Locational Data: (e.g., parcel#, directions to resource, elevation, etc. as appropriate) APN: 376-410-015, -016

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This Ranch style single-family residence faces south from the north side of Catt Road. The wood-framed, one-story rectangular building rests on a slightly raised foundation with vented crawl space. The low-pitched, cross-gabled composition shingle roof ends in wide open eaves with fascia boards over walls sheathed in stucco. Fenestration consists of original aluminum-framed windows, and two tripartite windows with sliding-fixed-sliding sash are found on the façade. An original wood door is recessed under the side gable eave, and the two-step stoop is sheltered by the elongated eave of the front gable. An attached 2-car garage with modern metal roll up door fills the left façade, a brick chimney rises from the interior, and a rear entry door with stoop is found on the north elevation. Three ancillary builings are present – a partially demolished rear wood-framed structure with wire and plywood sheathing (by 1967; Ancillary 1), a wood-framed far rear outbuilding with wire-filled windows sheathed and roofed with corrugated metal (1967-1978; Ancillary 2), and a small wood-framed chicken wire shed covered with a corrugated metal roof to the left of the SFR (1982-1996; Ancillary 3). An adjacent foundation (1967-1978; 376-410-016) appears associated with the elevated property, which is covered with natural vegetation and mature trees. The unaltered residence is in fair condition, and ancillary/associated development was extensively modified/demolished from the 1970s-2000s.

P3b. Resource Attributes: (List attributes and codes) HP2 – Single-Family Property

P4. Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5b. Description of Photo: (view, date, Acession #) View to NE; October 15, 2021



*P6. Date Constructed / Age and Sources:
☒ Historic ☐ Prehistoric ☐ Both
1962 (Assessor's Records)

*P7. Owner and Address:
Damas Clinton Keith, LLC & Aram Properties
3225 McLeod Drive, Ste. 777
Las Vegas, NV 89121

*P8. Recorded by: (Name, org., and addr.)
Jennifer Mermilliod
JM Research & Consulting (JMRC)
5110 Magnolia Avenue
Riverside, CA 92506

*P9. Date Recorded: October 15, 2021

*P10. Survey Type
Intensive-Level

*P11 – Report Citation (Cite survey report and other sources, or enter "none.") Mermilliod, Jennifer (JMRC). 2021. Historic Resources Assessment for the NWC Clinton Keith & Wildomar Trail Project (APNs 376-410-015, -016, -017, -021), Wildomar, Riverside County, CA.

Attachments: ☐ None ☐ Location Map ☐ Sketch Map ☒ Continuation Sheet ☒ Building, Structure, and Object Record
☐ Archaeological Record ☐ District Record ☐ Linear Feature Record ☐ Milling Station Record ☐ Rock Art Record
☐ Artifact Record ☐ Photograph Record ☐ Other Other (List)

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

Page 2 **of** 5 ***CHR Satus Code** 6Z

***Resource Name or #** (Assigned by recorder) 24850 Catt Road

B1. Historic Name:

B2. Common Name:

B3. Original Use: SFR/Ranch B4. Present Use: SFR

***B5. Architectural Style:** Ranch

***B6. Construction History**: (Construction date, alterations and date of alterations)

1962 SFR (376-410-015)
by 1967 Ancillary 1 (partially demolished structure)
1967-1978 Adjacent building (376-410-016), Ancillary 2 (outbuilding), Ancillary 4 (unknown)
1982-1996 Ancillary 3 (shed)
2011 Ancillary 4 (demolished)
2013 Adjacent building (376-410-016) demolished; foundation remains

***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** **Original Location:**

***B8. Related Features:**

Ancillary 1 (partially demolished rear structure)
Ancillary 2 (far rear outbuilding)
Ancillary 3 (shed adjacent to SFR)

B9a. Architect: none B9b. Builder: unknown

***B10. Significance: Theme** Late-20th Century Development **Area** Wildomar

Period of Significance 1960s-1970s **Property Type** SFR/Ranch **Applicable Criteria** N/A

(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

See Continuation Sheet.

B11. Additional Resource Attributes: (List attributes and codes)

***B12. References:**

Cashman, Bob. 2010. Wildomar. Arcadia Publishing.
City of Wildomar. 2021. History. www.cityofwildomar.org.
First American Title Insurance Co. 2021. Preliminary Title Report.
NETR 1938-2018. Historical Aerials Imagery. https://netronline.com/.
Lech, Steve. 2021. How Wildomar got its name and more. *Press Entrprs*
Riverside County. 2013. Assessor's Map. M.B. 376/41.
Wildomar Historical Society. 2021. www.historyofwildomar.org.

B13. Remarks:

***B14. Evaluator:** Jennifer Mermilliod

***Date of Evaluation:** November 7, 2021



***B10. Significance:**

The project area is located within the south-central area of the City of Wildomar, which was founded on the La Laguna Rancho during the 1880s by Quaker brothers-in-law William Collier and Donald Graham, who were also involved in the founding of South Pasadena, after a split with Franklin Heald, who retained and developed Elsinore to the north. The local land boom that followed the coming of the railroad prompted the development of land and water throughout the region in the late-1880s. First dubbed 'Wildon,' a combination of the founders' first names, they were soon joined by William's sister and Donald's wife, Margaret, which led to the name of Wildomar. As many friends from Iowa soon emigrated upon invitation by Collier and Graham to the warmer climate, the new town soon became known as a Quaker colony. The early town was centered between Palomar Street and Grand Avenue, running northwest to southeast, and Gruwell and South Pasadena Streets, running southwest to northeast. The 120 acres was subdivided into 34 blocks of 50-foot-wide lots, and proximity to the railroad ensured brisk sales. At least one major addition by Townsend, Frame, and Starbuck added 50 lots to the southeast in 1887, and further improvements in 1887-88 contributed the Hotel Wildomar, a "Friends Church," a lumber business, and later, a brick yard, hardware store, and library. Like many towns born of the railroad, Wildomar suffered with the end of the boom in 1888 and remained a small agrarian town. Settlers in the 1920s introduced dryland farming, and the 1940s-1950s brought others seeking farm and rural alternatives to urban living. It was not until the 1970s that Wildomar experienced suburban residential development, and the postmodern housing tracts were carved among the many horse ranches. Modern revitalization efforts, which began in the 1980s, saw the incorporation of Wildomar as a city in 2008, and continue today with the transformation of its rural acreage.

This 2.4-acre parcel (376-410-015) remained undeveloped until the latter 20th century when a residence and multiple ancillary buildings and structures likely related to agriculture or ranching use were constructed. The property includes evidence of grading and clearing, and multiple ancillary structures and remnant fencing indicates the sheltering of animals, likely horses. Riverside County land and property records document that the existing single-family residence was constructed in 1962. Historic topographical maps and aerial images show the residence as well as a large, multi-divided structure to the rear (Ancillary 1; now partially demolished) by 1967. Two long structures aligned north-south, which were likely temporary canopies, appear for a short time in the 1970s on the rear balance of the parcel. By 1978, the extant building far to the rear (Ancillary 2) was constructed, though it's original L-shape configuration was modified to its current footprint by 2005, and another long rectangular rear building is shown that is no longer extant (demolished 2010-12). Additionally, a building, possibly another residence, was constructed on the footprint of the extant adjacent foundation (376-410-016; demolished 2012-14) that appears to be associated with 24850 Catt Road by common internal footpaths. The small shed (Ancillary 3) adjacent to the extant residence was added 1982-1996. Fieldwork confirmed that the commonly designed, simple Ranch style residence dates to the 1960s and is unaltered and in fair condition, although ancillary development associated with the use of the property was extensively modified or demolished from the 1970s-2000s.

The extant residence, ancillary structures, and ancillary remains were constructed in the 1960s at the end of the horse ranch and farming period and the brink of residential tract development in the modern period and were not found to be associated with individuals who have figured prominently in history. Therefore, the properties are not strongly associated with events that have made a significant contribution to the broad patterns of our national or state history or with significant persons in our past (NR/CR Criteria A,B/1,2). Although unaltered, the residence and ancillary buildings are of common design and construction and do not embody the distinctive characteristics of a type, period, or represent the work of a master, or possess high artistic value (NR/CR C/3). The results of research under this focused HRA study have not yielded, or predicted the likelihood of the previously graded and disturbed property to yield, information important in history or prehistory (NR/CR Criteria D/4; see also BFSA 2021). On the local level, the property is subject to the Chapter 15.88 of the City of Wildomar Municipal, specifically Section 15.88.030, which provides mandatory findings, like designation eligibility criteria, for the establishment of historic preservation districts; no provisions are provided for individual resources. The surrounding area is either vacant rural land or developed with modern residential or commercial construction as well as the I-15 freeway, and no potential exists for the property to contribute to a collective resource. As the property does not appear to be eligible for listing in the National Register of Historic Places (NR), or California Register of Historical Resources (CR), or for local designation under the Wildomar Municipal Code, it has been assigned a California Historic Resources (CHR) code of ***6Z – Found ineligible for NR, CR, or Local designation through survey evaluation.***

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
CONTINUATION SHEET

Primary #
HRI#
Trinomial

Page 4 of 5 *Resource Name or # (Assigned by recorder) 24850 Catt Road

* Recorded by Jennifer Mermilliod *Date October 15, 2021 ☒ Continuation ☐ Update

P5b. Additional Photographs:


West side & rear elevation, view SE


Rear elevation, view S/SW


Rear & east elevation, view SW


Ancillary Building 3 (Shed), view NW


Ancillary Building 1, view SW


Ancillary Bluiding 1, view SE



Ancillary Building 2, view NW



Ancillary Building 2, view SE



Site Context, view N/NW



Site Context, view E/NE



Concrete Foundation & Walks (376-410-016), view W/NW



Concrete Foundation & Remnants (376-410-016), view E/SE

Attachment B

Professional Resume



Jennifer Mermilliod, M.A.

JM Research & Consulting

4049 Almond Street, Suite 201
Riverside, CA 92501
951-233-6897
jennifer@jmrc.biz

Statement of Qualifications & Expertise

Jennifer Mermilliod, M.A., Principal Historian/Architectural Historian exceeds the Secretary of the Interior's Professional Qualifications Standards for History and Architectural History.

Project Design, Entitlement & Consultation
Regulatory Compliance – Section 106 & CEQA
Survey, Evaluation & Context Development
Design Review, Case Planning, & Plan Check
Historic Preservation Planning, Policy & Programs
Cultural Resources Treatment & Management
National Register, California Register, & Local Registration
Presentation, Public Relations, & Outreach

Education

UC, Riverside, M.A., History, specialization in Historic Preservation, 2001
UC, Riverside, B.A., History, 2000

Professional Experience

Cultural Resources/Historic Consultant, JM Research & Consulting, since 2001
Reviewing Official under SHPO MOU, March Joint Powers Authority, since 2012
Contract Historic Preservation Senior Planner, City of Riverside, 2016-2020
Contract Preservation Planning Consultant on City Architect Team, City of San Gabriel, 2021-2024
Historic Consultant and On-film Historian, HGTV & DIY Network, Restored Show, Seasons 1-6, since 2016

Selected Projects

Preservation Planning, Policy & Programs

Veteran's Wall of Honor, City Hall Plaza, Riverside, 2021.
Determination of Eligibility, 550 E. Chapman Avenue, Orange, 2021
Mission Heritage Plaza Substantial Compliance Analysis, Wakeland Housing & Development, Riverside, 2020
National Register Nomination: Evergreen Cemetery, Riverside, 2020-2021
Rafferty Project Feasibility Study, Forensic Investigation, & Project Management, Toll Brothers, Santa Ana, 2020-2021
Covina Bowl Project Management, Covina, 2019-2021
National Register Nomination: Bumann Ranch, Encinitas, 2020
San Jacinto General Plan Update, City of San Jacinto, 2019
Landmark Nomination: Bigelow's Bungalow, Riverside, 2018
Historic Interpretive Entry Design & Plaque: Marywood Retreat Center, Orange, 2017
San Jacinto Downtown Specific Plan, City of San Jacinto, 2017
National Register Nomination: Jefferson Elementary School, Corona, 2017
Citywide Streetlight LED Conversion Project, City of Riverside, 2017
City of Riverside North Park Pergola Collapse – Salvage & Documentation Program, City of Riverside, 2017
Landmark Plaque: The Patsy O'Toole House, Riverside, 2016
Landmark Plaque: The Nielson Pool House, Riverside, 2016
Landmark Nomination and Plaque: Camp Anza Officers Club, Riverside, 2016
History Room Design & Interpretive Display: Camp Anza Officers Club, Riverside, 2016
City of Redlands Certified Local Government Program Development, 2015
Chicago/Linden Strategic Plan, City of Riverside, 2013
National Register Nomination: Huntington Beach Public Library on Triangle Park, Huntington Beach, 2013
California Baptist University Specific Plan, Riverside, 2012
Landmark Nomination and Plaque: The Walter C. Banks Residence, Riverside, 2012
Historic District Nomination: Segment of State Route 18, Corona, 2012
Landmark Nomination and Plaque: The A.C.E. Hawthorne House and Tree, Riverside, 2012
National Register Nomination: Grand Boulevard, Corona, 2011
California Register Nomination: The Jackson Building, Riverside, 2009
Landmark Nomination and Plaque: The Jackson Building, Riverside, 2008
California Point of Historical Resources Nomination: Camarillo Ranch House, Camarillo, 2005
National Register Multiple Property Nomination: Architecture of the Arts and Crafts Movement, Pasadena, 2004
Structure of Merit Nomination: House at 3855-59 11th Street, Riverside, 2003
National Register Nomination: Camarillo Ranch House, Camarillo, 2003

CEQA Compliance

Recreation Village Project, Covina, 2021
NWC Clinton Keith & Wildomar Trail Project, Wildomar, 2021
Valley and Oak Project HRA, El Monte, 2021
Santa Ana and Calabash Avenues Project HRA, Fontana, 2021
Slover/Alder Avenue Development Project HRA, Bloomington, 2021
Magnolia Presbyterian Sanctuary Rebuild Project SOIS Analysis, Riverside, 2021
Wood & Lurin Project HRA, Riverside, 2021
Great Scott Project HRA, Lake Forest, 2021
VitaPakt, Trumark Homes, Covina, 2021
Covina Bowl, Covina, 2020
March Field Historic District WMWD Water Utility Line Replacement, March Joint Powers Authority, 2019-2021
La Atalaya, Altura Credit Union Member House, Riverside, 2019
Entrada, Wakeland Housing & Development, Riverside, 2019
Main Library, City of Riverside, 2018
Redlands YMCA Properties, Redlands, 2017
Marywood Retreat Center, Orange, 2013-2017
Mission Inn La Trattoria Pergola & Wine Tasting Room, Riverside, 2016
Rhunau, Rhunau, Clark Building, Riverside, 2016
Arlington Plaza, Riverside, 2016
Mission Lofts, Riverside, 2015
Lakeside Temescal Valley Project Lake Corona, Corona, CA
Harris Farm Townhomes, Riverside, 2015
Dhammakaya Retreat, Azusa, 2013
Riverside Plaza Harris' Department Store, Riverside, 2012
Old Town Plaza, San Jacinto, 2011
Pfennighausen Ranch, Pedley, County of Riverside, 2010
March Field Historic District Garage Building #113, March Joint Powers Authority, 2009
Five Points Realignment, City of Riverside, 2008
Fox Block, City of Riverside, 2007

Section 106 & CEQA Compliance

Prado Dam & Reservoir Improvement Project, Santa Ana River, 2017-present
Home Front at Camp Anza - Camp Anza Officers Club, City of Riverside, 2013-2017
HRER, Colton Undergrade & C Street Crossing Seismic Retrofit Projects, City of Colton, Caltrans District 8, 2014
HPSR & FOE, University Avenue Streetscape Project, City of Riverside, Caltrans District 8, 2005
HPSR & FOE, Victoria Avenue Streetscape & Parkway Restoration Project, City of Riverside, Caltrans District 8, 2004
HPSR, Jurupa Avenue Underpass / Mountain Avenue Crossing Closure Project, City of Riverside, Caltrans District 8, 2001

Section 106 Compliance

Entrada, Wakeland Housing & Development, Riverside, 2019
Mission Heritage Plaza & Civil Rights Museum, Wakeland Housing & Development, Riverside, 2017
HPSR, Inglewood Avenue Corridor Widening Project, City of Lawndale, Caltrans District 7, 2013
Van Buren Improvement Project, March Joint Powers Authority, County of Riverside, EDA, 2013
Wattstar Cinema and Education, Los Angeles, 2010
County of San Bernardino Lead Abatement Program, Highland, Redlands, & San Bernardino, 2003

Professional Activities

Publications

The New Home Company Announces Marywood Hills, a Historic Collection of Luxury Residences with Unobstructed Views of the City of Orange. Press Release co-authored for immediate by The New Home Company. April 2018.

The Grandest Boulevard. Riverside County Historical Commission and the Riverside County Regional Park and Open-Space District, *The Riverside County Chronicles,* Issue No. 5. Fall 2011.

Riverside Project Wins Governor's Award for Historic Preservation: 'Home Front at Camp Anza' Brings New Life to Old Officers Club. Press Release authored for immediate release by City of Riverside. October 4, 2016.

Historic Resources Inventory Database Web site: Instructions for Online Navigation. Historic Resources Database Web site User's Manual prepared for the City of Riverside. September 2002.

Historic Resources Inventory: Instructions for Recording and Viewing. Historic Resources Database User's Manual prepared for the City of Riverside. September 2001.

Awards

California Preservation Foundation Award – Latino Context, City of Riverside. 2019.
Governor's Award for Historic Preservation – Homefront at Camp Anza. 2016.

California Preservation Foundation Best Restoration Award – Homefront at Camp Anza. 2017.
IE Economic Partnership Award for Best Real Estate Development and Reuse – Homefront at Camp Anza. 2016.
Golden Nugget Award - Best Renovated, Restored, Adaptive Re-Use Residential Project – Homefront at Camp Anza. 2016.
Golden Nugget Award -Best Affordable Housing Community Under 30du/acre – Homefront at Camp Anza. 2016.

Presentations, Speaking Engagements, and Instruction

Civil Rights Walk Eliza Tibbets Statue Film Presentation. City of Riverside Main Street Pedestrian Mall. 2021
City of Riverside Cultural Heritage Board Continuing Education Program. 2021
- *Session I. Cultural Heritage Board 101.* May 19, 2021.
- *Session II. Secretary of the Interior Standards,* June 16, 2021.
- *Session III. Certified Local Government Program,* July 21, 2021.

Creating Space for Women: Julia Morgan, Architect, and the Riverside YWCA. Women In Tandem (WIT). COVID HOLD.
The History of the Automobile in Riverside, Riverside Historical Society Four-Part Lecture Series. 2018-2021.
- *Part 1. The Automobile Comes to Town: The Birth of the Automobile Industry in Riverside, 1902-1913.* October 7, 2018.
- *Part 2. From Agriculture to Automobile: The Internalization of a New Economy, 1913-1928.* June 2, 2019.
- *Part 3. The Automobile Unscathed: Navigating a Path through Depression and Wartime, 1929-1945.* April 11, 2021.
- *Part 4. TBD 2022*

Historic Preservation: The Field of Public History. Notre Dame High School Career Day. September 2018.
Historic Preservation: The Field of Public History. Riverside East Rotary Club. July 2018.
Historic Preservation: The Field of Public History. Riverside Uptown Kiwanis. December 2017.
Architecture: Form, Function, and Ornamentation. Architecture Series. Diocese of San Bernardino, OLPH. October 2011.
How to Research Your Historic Home. City of Riverside Public Workshop. October 2010.
Riverside's Hidden Histories: The Gems Among Us – Nava Tires. Mission Inn Foundation and Museum. June 17, 2010.
The Art of the Survey. Riverside County Historical Commission 5th Annual Symposium. October 26, 2007.
The Field of Public History. California State University, Fullerton. Dr. Wendy Elliott Scheinberg. November 14, 2006.
Arlington Heights, the Realization and Preservation of a California Dream. CPF Conference. May 14, 2005.
How to Research Your Historic Home. Riverside County Historical Commission History Workshop. April 16, 2004.

Affiliations & Service

National Trust for Historic Preservation, General Member #58551599.
California Preservation Foundation, General Member #21244.
Old Riverside Foundation, General Member; Board of Directors (2003-2005) – facilitated mission advancement through planning and direction of annual home tour, awards program, facilities maintenance, and historic preservation advocacy.
Riverside Historic Society, Lifetime Member

Appendix 7

Wildomar Crossroads Energy Tables

January 18, 2022

Ms. Konnie Dobreva
EPD Solutions, Inc.
2 Park Plaza Suite 1120
Irvine, CA 92614

SUBJECT: WILDOMAR CROSSROADS ENERGY TABLES

The following Energy Tables were prepared for the proposed Wildomar Crossroads development (referred to as "Project") which is located in the City of Wildomar.

CONSTRUCTION POWER COSTS

Based on the *2022 National Construction Estimator* (1), the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.41. The Project is proposed to consist of a 23,104-square foot (sf) supermarket, 5,087-sf of retail/restaurants, a 2,750-sf fast-food restaurant with drive-through window, a 1,133-sf coffee/donut shop with drive-through window, a 3,348-sf of high-turnover (sit-down) restaurant, and 150 multi-family residential units in 3-story apartment buildings. Table 1 estimates the total power cost of the on-site electricity usage during the construction of the proposed Project to be approximately $13,242.15.

TABLE 1: PROJECT CONSTRUCTION POWER COST

Land Use	Power Cost (per 1,000 SF)	Size (1,000 SF)	Construction Duration (months)	Project Construction Power Cost
Supermarket	$2.41	23.104	14	$779.53
Shops	$2.41	5.087	14	$171.64
Fast-Food Restaurant w/ Drive-Thru	$2.41	2.750	14	$92.79
Coffee/Donut Shop w/Drive-Thru	$2.41	1.133	14	$38.23
High-Turnover (Sit-Down) Restaurant	$2.41	3.348	14	$112.96
Multifamily Housing (Mid-Rise)	$2.41	123.862	14	$4,179.10
Parking	$2.41	79.056	14	$2,667.35
Landscape	$2.41	57.591	14	$1,943.12
Open Space	$2.41	66.549	14	$2,245.36
Other Asphalt Surfaces	$2.41	29.996	14	$1,012.08
			CONSTRUCTION POWER COST	***$13,242.15***

CONSTRUCTION ELECTRICITY USAGE

The SCE's general service rate schedule were used to determine the Project's electrical usage. As of January 1, 2022, SCE's general service rate is $0.13 per kilowatt hours (kWh) of electricity for commercial uses, $0.17 per kWh of electricity of residential uses, and $0.13 per kWh of electricity for street and area lighting (2), the total electricity usage from on-site Project construction related activities is estimated to be approximately 96,082 kWh.

TABLE 2: PROJECT CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
Supermarket	$0.13	5,918
Shops	$0.13	1,303
Fast-Food Restaurant w/ Drive-Thru	$0.13	704
Coffee/Donut Shop w/Drive-Thru	$0.13	290
High-Turnover (Sit-Down) Restaurant	$0.13	858
Multifamily Housing (Mid-Rise)	$0.17	24,797
Parking	$0.13	21,091
Landscape	$0.13	15,364
Open Space	$0.13	17,754
Other Asphalt Surfaces	$0.13	8,002
CONSTRUCTION ELECTRICITY USAGE		***96,082***

CONSTRUCTION EQUIPMENT FUEL CONSUMPTION

Fuel consumption estimates are presented in Table 3. The aggregate fuel consumption rate for all equipment is estimated at 18.5 hp-hr-gal., obtained from California Air Resources Board (CARB) 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (3). For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is standard practice consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the City and region. As presented in Table 3, Project construction activities would consume an estimated 44,579 gallons of diesel fuel.

TABLE 3: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Construction Activity	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption
Demolition	20	Concrete/Industrial Saws	81	1	8	0.73	473	511
		Excavators	158	3	8	0.38	1,441	1,558
		Rubber Tired Dozers	247	2	8	0.40	1,581	1,709
Site Preparation	10	Crawler Tractors	212	4	8	0.43	2,917	1,577
		Rubber Tired Dozers	247	3	8	0.40	2,371	1,282
Grading	20	Crawler Tractors	212	3	8	0.43	2,188	2,365
		Excavators	158	1	8	0.38	480	519
		Graders	187	1	8	0.41	613	663
		Rubber Tired Dozers	247	1	8	0.40	790	854
Building Construction	230	Cranes	231	1	8	0.29	536	6,663
		Forklifts	89	3	8	0.20	427	5,311
		Generator Sets	84	1	8	0.74	497	6,182
		Tractors/Loaders/Backhoes	97	3	8	0.37	861	10,709
		Welders	46	1	8	0.45	166	2,059
Paving	20	Pavers	130	2	8	0.42	874	944
		Paving Equipment	132	2	8	0.36	760	822
		Rollers	80	2	8	0.38	486	526
Architectural Coating	20	Air Compressors	78	1	8	0.48	300	324
							CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)	***44,579***

CONSTRUCTION WORKER FUEL ESTIMATES

For purposes of analysis, it is assumed that 50% of all worker trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks with a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs (LDT1), and 25% are from light-duty-trucks with a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs (LDT2). Data regarding Project related construction worker trips were based on CalEEMod 2020.4.0 model defaults utilized within the AQIA. Vehicle fuel efficiencies for LDAs, LDT1s, and LDT2s were estimated using information generated within the 2017 version of the EMFAC developed by the CARB.

Table 4 provides an estimated annual fuel consumption resulting from the Project generated by LDAs, LDT1s, and LDT2s related to construction worker trips. Based on Table 4, it is estimated that 4,723 gallons of fuel will be consumed related to construction worker trips during full construction of the proposed Project.

TABLE 4: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (1 OF 2)

Year	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2022	LDA						
	Demolition	20	8	14.7	2,352	32.77	72
	Site Preparation	2	9	14.7	265	32.77	8
	LDT1						
	Demolition	20	4	14.7	1,176	27.55	43
	Site Preparation	2	5	14.7	147	27.55	5
	LDT2						
	Demolition	20	4	14.7	1,176	26.03	45
	Site Preparation	2	5	14.7	147	26.03	6
2023	LDA						
	Site Preparation	8	8	14.7	941	33.79	28
	Grading	20	109	14.7	32,046	33.79	948
	Building Construction	230	8	14.7	27,048	33.79	801
	Paving	2	22	14.7	647	33.79	19

TABLE 4: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES (2 OF 2)

Year	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023	LDT1						
	Site Preparation	8	4	14.7	470	28.38	17
	Grading	20	55	14.7	16,170	28.38	570
	Building Construction	230	4	14.7	13,524	28.38	476
	Paving	2	11	14.7	323	28.38	11
	LDT2						
	Site Preparation	8	4	14.7	470	27.02	17
	Grading	20	55	14.7	16,170	27.02	598
	Building Construction	230	4	14.7	13,524	27.02	501
	Paving	2	11	14.7	323	27.02	12
2024	LDA						
	Paving	18	8	14.7	2,117	34.87	61
	Architectural Coating	20	22	14.7	6,468	34.87	185
	LDT1						
	Paving	18	4	14.7	1,058	29.26	36
	Architectural Coating	20	11	14.7	3,234	29.26	111
	LDT2						
	Paving	18	4	14.7	1,058	28.05	38
	Architectural Coating	20	11	14.7	3,234	28.05	115
TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION							***4,723***

CONSTRUCTION VENDOR FUEL ESTIMATES

It is assumed that 50% of all vendor trips are from Medium-Heavy-Duty-Trucks (MHDT) and 50% are from Heavy-Heavy-Duty Trucks (HHDT). These assumptions are consistent with the CalEEMod 2020.4.0 defaults utilized within the within the AQIA. Vehicle fuel efficiencies for MHDTs and HHDTs were estimated using information generated within EMFAC2017.

Table 5 shows the estimated fuel economy of MHDTs and HHDTs accessing the Project site. Based on Table 5, fuel consumption from construction trips will total approximately 6,995 gallons.

TABLE 5: CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION ESTIMATES

Year	Construction Activity	Duration (Days)	Vendor/ Hauling Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2022	MHDT						
	Demolition	20	2	6.9	276	10.34	27
	Site Preparation	2	1	6.9	14	10.34	1
	HHDT (Vendor)						
	Demolition	20	2	6.9	276	7.06	39
	Site Preparation	2	1	6.9	14	7.06	2
	HHDT (Hauling)						
	Demolition	20	2	20	800	7.06	113
2023	MHDT						
	Site Preparation	8	2	6.9	110	10.74	10
	Grading	20	22	6.9	3,036	10.74	283
	Building Construction	230	2	6.9	3,174	10.74	296
	Paving	2	2	6.9	28	10.74	3
	HHDT (Vendor)						
	Site Preparation	8	2	6.9	110	7.44	15
	Grading	20	22	6.9	3,036	7.44	408
	Building Construction	230	2	6.9	3,174	7.44	427
	Paving	2	2	6.9	28	7.44	4
	HHDT (Hauling)						
	Site Preparation	8	244	20	39,040	7.44	5,250
2024	MHDT						
	Paving	18	2	6.9	248	10.91	23
	Architectural Coating	20	2	6.9	276	10.91	25
	HHDT (Vendor)						
	Paving	18	2	6.9	248	7.54	33
	Architectural Coating	20	2	6.9	276	7.54	37
TOTAL CONSTRUCTION VENDOR/HAULING FUEL CONSUMPTION							***6,995***

TRANSPORTATION ENERGY DEMANDS

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. Table 6 presents the estimated annual fuel consumption from project-generated traffic.

TABLE 6: PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION

Vehicle Type	Average Vehicle Fuel Economy (mpg)	Annual VMT	Estimated Annual Fuel Consumption (gallons)
LDA	34.87	2,883,716	82,689
LDT1	29.26	301,457	10,304
LDT2	28.05	928,558	33,105
MDV	22.23	742,075	33,389
LHDT1	14.80	138,898	9,386
LHDT2	15.46	38,555	2,494
MHDT	10.91	61,374	5,627
HHDT	7.54	100,632	13,348
OBUS	6.77	3,276	484
UBUS	5.02	1,657	330
MCY	37.87	127,719	3,373
SBUS	8.14	5,882	722
MH	6.27	27,821	4,435
TOTAL ANNUAL FUEL CONSUMPTION		***5,361,620***	***199,687***

MDV = Medium Duty Trucks; LHDT1 = Light-Duty Trucks (Vehicles under the LHDT1 category have a GVWR of 8,501 to 10,000 lbs.);
LHDT2 = Light-Duty Trucks (Vehicles under the LHDT2 category have a GVWR of 10,001 to 14,000 lbs.); OBUS = Other Buses; UBUS = Urban Buses
MCY = Motorcycle; SBUS = School Bus; MH = Motorhome

FACILITY ENERGY DEMANDS

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by Southern California Gas (SoCalGas) and electricity would be supplied to the Project by SCE. Annual natural gas and electricity demands of the Project are summarized in Table 7.

TABLE 7: PROJECT ANNUAL OPERATIONAL NATURAL GAS AND ELECTRICITY DEMAND SUMMARY

Land Use	Natural Gas Demand (kBTU/year)	Electricity Demand (kWh/year)
Supermarket	441,980	840,524
Shops	11,191	61,756
Fast-Food Restaurant w/ Drive-Thru	749,815	126,940
Coffee/Donut Shop w/Drive-Thru	308,924	52,299
High-Turnover (Sit-Down) Restaurant	912,866	154,544
Multifamily Housing (Mid-Rise)	2,157,330	594,002
Parking	0	27,670
Landscape	0	0
Open Space	0	0
Other Asphalt Surfaces	0	0
TOTAL PROJECT ENERGY DEMAND	***4,582,106***	***1,857,735***

REFERENCES

1. **Pray, Richard.** *2022 National Construction Estimator.* Carlsbad : Craftsman Book Company, 2022.
2. **Southern California Edison.** Regulatory Information - Rates Pricing. [Online] https://www.sce.com/regulatory/tariff-books/rates-pricing-choices.
3. **California Air Resources Board.** *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects For Evaluating Motor Vehicle Registration Fee Projects And Congestion Mitigation and Air Quality Improvement (CMAQ) Projects, Emission Factor Tables.* 2018.

Appendix 8

Preliminary Geotechnical Exploration

March 31, 2022

Project No. 13158.003

Sage Investco
3837 Birch Street
Newport Beach, CA 92660

Attention: Mr. Ralph Deppisch

Subject: Response to Third-Party Peer Review of the Wildomar Crossroads Geotechnical Report
City of Wildomar, Planning Department Case Number WILD-01, Task 112
Wildomar, California

References: Preliminary Geotechnical Exploration Proposed 8.9 Acre Mixed-Use Development, APNs 376-410-021 and 376-410-015, 016 & -017, NWC Clinton Keith Road and Wildomar Trail, Wildomar, California prepared by Leighton and Associates, Inc., Project 13158.003, dated October 19, 2021.

In accordance with the request of Joe Francis of Intracorp SW, this Addendum Letter is prepared in response to the third-party peer review comments provided by the City of Wildomar for our referenced geotechnical report (Leighton, 2021). For ease of reference, the review comments are summarized below and followed by our response.

Comments No. 1 through 4 *Are typographical/ editorial in nature and addressed collectively below.*

Response – The typographical errors are noted and have been corrected in our revised report dated October 19, 2021 (attached). Seeing as no geotechnical issues of concern are presented by these comments, the content and findings of our report remain unchanged and the recommendations are valid for the project as currently conceived.

Comment No. 5 – *While it may not have been part of the scope for this report, there is not much discussion on the potential for erosion and the loss of topsoil. For the purposes of CEQA this report has covered most of the topics but only briefly touches on erosion during the discussions on rockfalls, and slope construction. A general statement regarding the potential for erosion and the loss of topsoil on the site during construction and in the operational phase would be helpful.*

Response – To facilitate this request we have included the following statements within Section 3.6.6 of the revised report. “The anticipated earthwork associated with the proposed site improvements will necessitate the removal and/or burial of the existing surface soils present on the subject site during grading activities. Surface soils may be subject to erosion where

exposed during grading. These activities however, would be conducted in accordance with the regulations and procedures set forth in Chapter 33 of the California Building Code (CBC), which would avoid substantial erosion or unstable soil conditions. Substantial soil erosion should therefore not be anticipated as a result of the development of the site with incorporation of appropriate mitigation measures."

Based on proposed erosion control measures and surface drainage improvements upon completion of the project the loss of site materials due to erosion (water and wind) is considered low.

If you have any questions regarding this report, please contact this office at your convenience.

Respectfully submitted,

LEIGHTON and ASSOCIATES, INC.



Mitchel S. Bornyasz CEG 2416
Project Geologist
Ext 8925 mbornyasz@leightongroup.com



Simon I. Saiid, GE 2641
Principal Engineer
Ext 8013 ssaiid@leightongroup.com

Attachments: Revised Geotechnical Report (Dated March 30, 2022)

Distribution: (1) Addressee (PDF via email)
(1) Joe Francis, Intracorp SW, LLC (PDF via email)

PRELIMINARY GEOTECHNICAL EXPLORATION
PROPOSED 8.9 ACRE MIXED-USE DEVELOPMENT
APNS 376-410-021 AND 376-410-015, 016 & -017
WILDOMAR, CALIFORNIA

Prepared For

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660

Prepared By

LEIGHTON AND ASSOCIATES, INC.
41715 ENTERPRISE CIRCLE N SUITE 103
TEMECULA, CA 92590

Project Number 13158.003

October 19, 2021

Revised Date March 30, 2022

October 19, 2021
Revised March 30, 2022
Project No. 13158.003

Sage Investco
3837 Birch Street
Newport Beach, CA 92660

Attention: Mr. Ralph Deppisch

Subject: Preliminary Geotechnical Exploration
Proposed 8.9 Acre Mixed-Use Development
APNs 376-410-021 and 376-410-015, 016 & -017
NWC Clinton Keith Road and Wildomar Trail
Wildomar, California

In accordance with your request, we have performed a geotechnical exploration for the subject site located northwest of the intersection of Clinton Keith Road and Wildomar Trail in the City of Wildomar, California (see Figure 1). This report summarizes our geotechnical findings and provides preliminary recommendations for the design and construction of the proposed improvements. Based on the results of our exploration, it is our opinion that the site is suitable for the intended use provided the recommendations included in this report are implemented during the design and construction phases of development.

If you have any questions regarding this report, please do not hesitate to contact the undersigned. We appreciate this opportunity to be of service on this project.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

Mitchel S. Bornyasz CEG 2416
Project Geologist
Ext 8925 mbornyasz@leightongroup.com

Simon I. Saiid, GE 2641
Principal Engineer
Ext 8013 ssaiid@leightongroup.com

Distribution: (1) Addressee (PDF)

TABLE OF CONTENTS

Section Page

1.0 INTRODUCTION 1
1.1 Purpose and Scope 1
1.2 Site Description 1
1.3 Project Description 2
2.0 FIELD EXPLORATION AND LABORATORY TESTING 3
2.1 Field Exploration 3
2.2 Laboratory Testing 3
3.0 GEOTECHNICAL AND GEOLOGIC FINDINGS 4
3.1 Regional Geology 4
3.2 Site Specific Geology 4
3.3 Groundwater and Surface Water 5
3.4 Regional Faulting and Fault Activity 5
3.5 Ground Shaking and Seismic Coefficients per 2019 CBC 6
3.6 Secondary Seismic Hazards 7
3.6.1 Dynamic Settlement (Liquefaction and/or Dry Settlement) 7
3.6.2 Ground Rupture 8
3.6.3 Rock Falls 8
3.6.4 Seiches, Tsunamis, Inundation Due to Large Water Storage Facilities 8
3.6.5 Slope Stability and Landslides 8
3.6.6 Erosion 8
3.6.7 Subsidence 9
4.0 CONCLUSIONS AND RECOMMENDATIONS 10
4.1 General 10
4.2 Earthwork 10
4.2.1 Remedial Grading 10
4.2.2 Structural Fills 11
4.2.3 Slope Construction 12
4.2.4 Import Soils 12
4.2.5 Utility Trenches 12
4.2.6 Temporary Slope Stability 13
4.2.7 Shrinkage 13
4.2.8 Drainage 14
4.3 Foundation Design 14
4.3.1 Design Parameters – Spread/Continuous Shallow Footings 14
4.3.2 Post-Tension Slab-on-Grade Design 15
4.3.3 Vapor Retarder 15
4.3.4 Settlement Estimates 16
4.4 Footing Setback 16
4.5 Retaining Walls 16

4.6 Sulfate Attack 18
4.7 Preliminary Pavement Design 18
5.0 GEOTECHNICAL CONSTRUCTION SERVICES 19
6.0 LIMITATIONS 20
REFERENCES 21

Accompanying Tables, Figures, Plates and Appendices

List of Tables

TABLE 1. 2019 CBC SEISMIC COEFFICIENTS PER USGS GENERAL PROCEDURE 7
TABLE 2. PTI DESIGN PARAMETERS 15
TABLE 3. RETAINING WALL DESIGN EARTH PRESSURES (STATIC, DRAINED) 17
TABLE 4. PRELIMINARY ASPHALT PAVEMENT SECTIONS 18

Figures and Plates (end of text)

Figure 1 – Site Location Map
Figure 2 – Geotechnical Map / Boring Location Plan
Figure 3 – Regional Geology Map

Appendices

Appendix A – Logs of Exploratory Borings / Field Exploration
Appendix B – Results of Geotechnical Laboratory Testing
Appendix C – General Earthwork and Grading Specifications
Appendix D – GBA - Important Information About This Geotechnical Report

1.0 INTRODUCTION

1.1 Purpose and Scope

This geotechnical exploration is for the proposed residential development located in the City of Wildomar, California (*see Figure 1, Site Location Map)*. Our scope of services for this exploration included the following:

- Review of available site-specific geologic information and conceptual site plans by AO Architects (residential) and GK Pierce (commercial).
- A site reconnaissance and excavation of 6 exploratory borings and 7 exploratory test pits. Approximate locations of these borings and test pits are depicted on Figure 2. The logs of borings are presented in Appendix A.
- Geotechnical laboratory testing of selected soil samples collected during this exploration. Test results are presented in Appendix B.
- Geotechnical engineering analyses performed as directed by a California registered Geotechnical Engineer (GE) and reviewed by a California Certified Engineering Geologist (CEG).
- Preparation of this report which presents our geotechnical conclusions and recommendations regarding the grading and design of the proposed structures.

This report is not intended to be used as an environmental assessment (Phase I or other), or foundation/grading plan review. A Phase 1 ESA for this project was prepared by Leighton under separate cover.

1.2 Site Description

As depicted on Figure 1, the 8.96-acre site is located north of Clinton Keith Road and west of Wildomar Trail in the City of Wildomar, California. The site is designated by Riverside County APNs 376-410-021 and 376-410-015, 016 and -017. A large portion of the site is undeveloped and vacant, with the western portion of the site occupied by a single family residence and ancillary out buildings. Review of historic aerial photographs indicate that the residence was built sometime between 1938 and 1967, and that there were previous additional barn-type structures to the north of the residence on the property. Review of these aerial photos (and field reconnaissance) also indicates that one large and multiple smaller end-dumped stockpiles were placed on the central and southern portions of the site circa 2009. The general area of the project site is underlain by sedimentary bedrock formation (Pauba Formation), locally mantled by younger alluvium and topsoil. Site vegetation is generally sparse and

consists of seasonal weeds and grasses with several mature trees in the northeastern portion of the site.

1.3 Project Description

We understand that proposed site improvements involve mixed-use development with multifamily residential construction on the western portion of the site and commercial retail within the eastern portion (see Figure 2). The residential development includes five (5), two to three-story apartment buildings, a community club house, and associated driveways, parking and drainage structures. The commercial development includes a Major store with attached shop (~27,160 sq.ft) in the northeastern part of the site and two drive-thru restaurants (~3,000 to 3,600 sq. ft.) located in the southeastern portion of the site along Clinton Keith. Grading plans were not available at the time of this evaluation. However, based on the provided conceptual site plan and existing topography, future grading is expected to be moderate with maximum cuts and fills in the order of 10 to 15 feet plus remedial grading, where applicable. Cut or fill slopes, if proposed, are expected to be constructed at 2:1 (horizontal to vertical) inclinations or flatter.

2.0 FIELD EXPLORATION AND LABORATORY TESTING

2.1 Field Exploration

Our field exploration consisted of the excavation of six (6) borings within the site and seven (7) backhoe trenches. During the drilling exploration, in-situ undisturbed (Cal Ring), standard penetration test (SPT) and disturbed/bulk samples were collected from the borings for further laboratory testing and evaluation. Approximate locations of these exploratory borings and trenches are depicted on the *Geotechnical Map* (Figure 2). Sampling was conducted by a senior staff engineer and engineering geologist from our firm. After logging and sampling, the excavations were backfilled with spoils generated during excavation. The exploration logs from this exploration investigation are included in Appendix A.

2.2 Laboratory Testing

Laboratory tests were performed on representative samples to provide a basis for development of remedial earthwork and geotechnical design parameters. The laboratory testing program included expansion index, in-situ moisture and density, R-value, collapse potential, and corrosion characteristics. The results of our laboratory testing from this exploration are presented in Appendix B.

3.0 GEOTECHNICAL AND GEOLOGIC FINDINGS

3.1 Regional Geology

The site is located within a prominent natural geomorphic province in southwestern California known as the Peninsular Ranges. This region is characterized by steep, elongated ranges and valleys that trend generally northwestward. More specifically, the site is located within the southwestern portion of the relatively stable Perris Block, adjacent to the Elsinore Trough (Kennedy, 1977).

The Perris Block, approximately 20 miles by 50 miles in extent, is bounded by the San Jacinto Fault Zone to the northwest, the Elsinore Fault Zone to the southwest, the Cucamonga Fault Zone to the northwest, and the Temecula Basin to the southeast. The Perris Block has had a complex tectonic history, apparently undergoing relative vertical land-movements of several thousand feet in response to movement on the Elsinore and San Jacinto Fault Zones. Sedimentary and volcanic materials locally mantle the crystalline bedrock with alluvial deposits filling the lower valley areas.

3.2 Site Specific Geology

The earth materials encountered on site during this investigation consisted of undocumented artificial fill, alluvium, and the sandstone member of the Pleistocene-age Pauba Formation (Figure 3). These units are discussed in the following sections in order of increasing depth and relative age.

- **Undocumented Artificial Fill (Afu):** Undocumented fill soils were observed at several locations within the subject site. The majority of the undocumented fill forms a large central stock pile and multiple smaller end dump piles within the central and southern portions of the site (see Figure 2). While the undocumented fill soil appears to be composed of materials derived from surrounding development, the presence of imported materials or rock/debris within these fills cannot be ruled out at this time. Additional localized fill soil is likely present in the areas surrounding previous residences and out-buildings/structures. Surface accumulations of artificial fill less than approximately 3 feet may not be depicted on Figure 2. These undocumented fills are considered unsuitable for support of additional fill and/or structural improvements in their current setting and should be completely removed during rough-grading operations. Clean undocumented fill soils, free of deleterious material may be reused as compacted fill provided they are placed in general accordance with the recommendations provided in Appendix C. Vegetation, trash and debris, where encountered, should also be removed from the site.

- **Topsoil/Colluvium (not a mapped unit):** Thin deposits of weathered topsoil and slope wash mantle the elevated portions of the site. Where present, these deposits generally consist of silty/clayey sand (SM/SC) to sandy clay (CL) and expected to extend to a maximum depth of 3 feet. The topsoil and colluvium are considered unsuitable in their present state and should be removed to competent underlying deposits per the recommendations of section 4.2.1 in this report. Free of deleterious materials these deposits can be reused as fill soils during grading. Based on the results of our laboratory testing, these materials are expected to possess low expansion potential (EI<51).

- **Quaternary Alluvium (Qal):** Alluvium was observed infilling the bottom of the drainage present within the eastern parts of the site. The alluvium appears to be composed of clayey sand (SC) to silty sand (SM) occasional sandy clay layers (CL). Based on the results of our laboratory testing, these materials are expected to possess low expansion potential (EI<51) in the upper 5 to 10 feet. Due to the potentially compressible nature of the near-surface alluvium (upper ~5 to 7 feet), these deposits are considered unsuitable for support of settlement-sensitive structures and/or structural fill in their present condition.

- **Pauba Formation (Qps):** The bedrock material (Pauba Formation) is expected to underlie the site and will be exposed at the surface in future cut (western) portions of site. This unit generally consists of medium-dense to very dense, well graded sands (SW) and clayey silty sands (SM) with interbedded sandy silt/clay (CL/ML). Based on the results of our laboratory testing, this unit appears to generally possess very low to low expansion potential (EI<51) and low collapse potential (collapse<1%)

3.3 Groundwater and Surface Water

Groundwater was encountered within one of our borings at a depth of 42.6 feet below surface grade (BGS). Surface water is not anticipated to be encountered during grading. However, it should be noted that locally perched water conditions may occur in the future, and may fluctuate seasonally, depending on rainfall conditions. Surface water was not observed during this study; however, surface water should be expected during inclement weather within the onsite natural drainage channel.

3.4 Regional Faulting and Fault Activity

The subject site, like the rest of Southern California, is located within a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates. The principal source of seismic activity is movement along the northwest-trending regional fault systems such as the San Andreas, San Jacinto, and Elsinore Fault Zones. Based on published geologic

hazard maps, this subject site is not located within a currently designated Alquist-Priolo (AP) Earthquake Fault Zone. The project site is located approximately 0.63 miles northeast of the closest Alquist-Priolo Earthquake Fault Zone. However, the subject site is located within a mapped Riverside County Fault Hazard zone. Previous mapping on adjacent properties has identified an earthquake fault in the northeastern portion of this site (Leighton, 2005, 2006, 2021). As presented on the conceptual site plan (Figure 2), habitable buildings are located (set back) in excess of 50 feet from the mapped trace of the identified fault per the approved fault hazard report (Leighton, 2021).

3.5 Ground Shaking and Seismic Coefficients per 2019 CBC

Strong ground shaking can be expected at the site during moderate to severe earthquakes in this general region. This is common to virtually all of Southern California. Intensity of ground shaking at a given location depends primarily upon earthquake magnitude, site distance from the source, and site response (soil type) characteristics.

Based on our explorations and review, the site is underlain by shallow dense fill and alluvial materials underlain by dense Pauba Formation. As such, the site is classified as a Class C site, and in accordance with ASCE 7-16 as the Design Code Reference Document, the 2019 CBC seismic coefficients are listed in table below. These seismic coefficients are generated based on interactive tools/programs currently available on USGS website and/or OSHPD seismic maps.

Table 1. 2019 CBC Seismic Coefficients per USGS General Procedure

CBC Categorization/Coefficient	Design Value
Site Latitude	**33.5985**
Site Longitude	**-117.2416**
Site Class Definition	**C**
Mapped Spectral Response Acceleration at 0.2s Period, S_s	**1.65 g**
Mapped Spectral Response Acceleration at 1s Period, S_1	**0.62 g**
Short Period Site Coefficient at 0.2s Period, F_a	**1.2**
Long Period Site Coefficient at 1s Period, F_v	**1.4**
Adjusted Spectral Response Acceleration at 0.2s Period, S_{MS}	**1.97 g**
Adjusted Spectral Response Acceleration at 1s Period, S_{M1}	**0.86 g**
Design Spectral Response Acceleration at 0.2s Period, S_{DS}	**1.32 g**
Design Spectral Response Acceleration at 1s Period, S_{D1}	**0.57 g**

g = Gravity acceleration

The results of the analysis also indicate that the adjusted Peak Ground Acceleration (PGA_M) for this site is 0.87 g.

3.6 Secondary Seismic Hazards

Ground shaking can induce "secondary" seismic hazards such as liquefaction, dynamic densification, and ground rupture, as discussed in the following subsections:

3.6.1 Dynamic Settlement (Liquefaction and/or Dry Settlement)

The site is mapped as located within a Low to Moderate Riverside County Liquefaction Hazard zone. Based on the results of our subsurface borings, observations and the geotechnical recommendations presented herein, the loose near surface soils (susceptible to liquefaction) on the site will be completely removed and recompacted during remedial grading. Thus, potential for liquefaction or dynamic settlement to occur on this site is considered very low.

Compacted fill soils above the ground water elevation that are primarily granular in nature (sand), may be susceptible to dynamic settlement or densification if shaken by the design level earthquake. This hazard is considered very low at this site. As such, the differential settlement is expected to be less than 0.5-inch in a 40-foot horizontal distance within this site.

3.6.2 Ground Rupture

Previous mapping on adjacent properties has identified an earthquake fault projecting across the northeastern portion of this site (Leighton, 2005, 2006, 2021). Habitable building locations, as presented on the conceptual site plan in place at the time of this evaluation are located (set back) in excess of 50 feet from the mapped trace of the identified fault. Given the aforementioned setbacks, surface rupture hazard to buildings are considered very low in the event of movement on the mapped fault.

3.6.3 Rock Falls

The potential for rock fall due to either erosion or seismic ground shaking is considered non-existent in this area.

3.6.4 Seiches, Tsunamis, Inundation Due to Large Water Storage Facilities

Due to the great distance to large bodies of water, the possibility of seiches and tsunamis impacting the site is considered remote.

3.6.5 Slope Stability and Landslides

The existing slopes are considered grossly stable. Due to the relatively moderate relief across the site and anticipated graded slope heights, the risk of deep-seated slope failure on this site or adjacent sites is considered low. The site is not considered susceptible to seismically induced landslides.

3.6.6 Erosion

The anticipated earthwork associated with the proposed site improvements will necessitate the removal and/or burial of the existing surface soils present on the subject site during grading activities. Surface soils may be subject to erosion where exposed during grading. These activities however, would be conducted in accordance with the regulations and procedures set forth in Chapter 33 of the CBC, which would avoid substantial erosion or unstable soil conditions. Substantial soil erosion should therefore not be anticipated as a result of the development of the site with incorporation of appropriate mitigation measures.

Based on proposed erosion control measures and surface drainage improvements upon completion of the project the loss of site materials due to erosion (water and wind) is considered low.

3.6.7 Subsidence

In accordance with County of Riverside Geologic Hazard Maps, the site is located within an active subsidence area. However, due to the previous grading (Leighton 2004), we consider the potential for differential subsidence and ground fissuring on this site to be very low.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 General

The proposed site development appears feasible from a geotechnical viewpoint provided that the following recommendations are incorporated into the design and construction phases of development. The main geotechnical concern is the potential for differential settlement along portions of the proposed buildings where subgrade transitions from dense Pauba subgrade into fill subgrade. As such, special remedial grading recommendations are provided below so differential settlement is kept to tolerable limits.

4.2 Earthwork

Earthwork should be performed in accordance with the following recommendations and the *Earthwork and Grading Specifications* included in Appendix C of this report. In case of conflict, the following recommendations supersede those in Appendix C. The contract between the Owner and the earthwork contractor should be worded such that it is the responsibility of the contractor to place fill properly and in accordance with recommendations presented in this report, including the guide specifications in Appendix C, and the testing and observation of the geotechnical consultant.

4.2.1 Remedial Grading

Prior to grading, the proposed structural improvement areas (i.e. all structural fill areas, pavement areas, buildings, etc.) of the site should be cleared of surface and subsurface obstructions, heavy vegetation, roots and debris. These deleterious materials should be disposed of offsite. Septic tanks, cesspool, and water wells, if encountered, should be removed or abandoned in accordance with the Riverside County Department of Health Services guidelines.

An actual grading plan was not available at the time of preparing this report. However, we anticipate that there will be conventional cut and fill grading at the site to create building pads. Removal of unsuitable compressible materials should be anticipated in the proposed cut and fill areas. Unsuitable materials will consist of topsoil/ colluvium, all undocumented fill, and the upper 3 to 7 feet of alluvium. For preliminary planning purposes, the removal depth as indicated on figure 2 will be on the order of 3 to 5 feet below existing grades for most of the residential site and western portion of the commercial site. The removal depth is expected to be 5 to 7 feet below existing grade for settlement-sensitive

structures within the eastern portion of the commercial site. Removal depth or over-excavation need not to exceed 3 feet in parking areas.

Localized deeper "pockets" of unsuitable material may be encountered such as the central eastern portion of the site where undocumented fills may reside on top of compressible alluvium. The over excavation bottoms should be reviewed by a representative of the geotechnical consultant. The excavation bottoms exposing moderately dense Pauba Formation or Alluvium should be processed and moisture conditioned prior to placement of fill soils.

If design grades create cut/fill transitions, over-excavation of the cut portion of the transition pads to a minimum of 3 feet below pad grade may be desired during rough grading. This over-excavation does not include scarification or pre-processing prior to addition of fill placements. Over-excavation limits should extend to approximately 10 feet outside of proposed building “footprints”. Actual limits can be determined during rough grading operations. We recommend that transition pads be overexcavated during rough-grading operations.

After completion of the recommended removal of unsuitable soils, and over-excavation of transition pads, the approved surface should be scarified a minimum of 8-inches, moisture conditioned as necessary to near optimum and compacted.

4.2.2 Structural Fills

The onsite soil is generally suitable for reuse as compacted fill, provided it is substantially free of organic materials, expansive soil, debris, and oversize material (greater than 6 inches in greatest dimension). Topsoil and vegetation layers, root zones, and similar surface materials should be stripped and stockpiled or removed from the site. The optimum lift thickness to produce a uniformly compacted fill will depend on the soil and the type and size of compaction equipment used. In general, fill should be placed in uniform lifts not exceeding 8 inches in thickness. Fill soil should be placed and compacted to a minimum 90 percent relative compaction (as determined by ASTM Test Method D1557) and at or above the optimum moisture content.

Placement and compaction of fill should be performed in accordance with the City Grading Ordinances and the recommendations in Appendix C, under the full-time observation and testing of the geotechnical engineer. Import fill soil with an expansion index greater than 21 should not be used in the upper 3 feet of subgrade soil below building pads. If cobbles and boulders larger than 6-inches in largest diameter are encountered or produced during grading, these oversized cobbles and boulders should be reduced to less than 6 inches or placed in structural fill as outlined in Appendix C.

4.2.3 Slope Construction

If applicable, fill slope keyways will be necessary at the toe of all fill slopes placed beyond the areas of existing fill and at fill-over-cut contacts. Keyway schematics, including dimensions and subdrain recommendations, are provided in Appendix C. All keyways should be excavated into dense existing fill or Pauba formation as determined by the geotechnical engineer. The cut portions of all slope and keyway excavations should be geologically mapped and approved by a geologist prior to fill placement.

Compacted fill or cut slopes up to 20 feet in height at 2:1 (horizontal:vertical) or flatter are considered grossly stable for static and pseudostatic conditions. Higher or steeper slopes should be subject to further review and evaluation.

The outer portion of fill slopes should be either overbuilt by 2 feet (minimum) and trimmed back to the finished slope configuration or compacted in vertical increments of 5 feet (maximum) by a weighted sheepsfoot roller as the fill is placed. The slope face should then be track-walked by dozers of appropriate weight to achieve the final slope configuration and compaction of the slope face.

Slope faces are inherently subject to erosion, particularly if exposed to rainfall and irrigation. Landscaping and slope maintenance should be conducted as soon as possible in order to increase long-term surficial stability. Berms and or v-ditch drainage devices should be provided at the top of all slopes. Drainage should be directed such that surface runoff on the slope face is minimized.

4.2.4 Import Soils

Import soil and/or borrow sites, if needed, should be evaluated by us prior to import. Import soil should be uncontaminated, granular in nature, free of organic material (loss on ignition less-than 2 percent), have very low expansion potential (E<21) and have a low corrosion impact to the proposed improvements.

4.2.5 Utility Trenches

Utility trenches should be backfilled with compacted fill in accordance with Sections 306-6 and 306-12 of the *Standard Specifications for Public Works Construction,* (“Greenbook”), 2021 Edition. Fill material above the pipe zone should be placed in lifts not exceeding 8 inches in uncompacted thickness and should be compacted to at least 90 percent relative compaction (ASTM D 1557) by mechanical means only. Site soil may generally be suitable as trench backfill provided the soil is screened of rocks over 1½ inch in diameter and organic matter. If imported sand is used as backfill, the upper 3 feet in building and pavement areas should be compacted to 95 percent. The upper 6 inches

of backfill in all pavement areas should be compacted to at least 95 percent relative compaction.

Where granular backfill is used in utility trenches adjacent moisture sensitive subgrades and foundation soil, we recommend that a cut-off "plug" of impermeable material be placed in these trenches at the perimeter of buildings, and at pavement edges adjacent to irrigated landscaped areas. A "plug" can consist of a 5-foot long section of clayey soil with more than 35-percent passing the No. 200 sieve, or a Controlled Low Strength Material (CLSM) consisting of one sack of Portland-cement plus one sack of bentonite per cubic-yard of sand. CLSM should generally conform to requirements of the "Greenbook". This is intended to reduce the likelihood of water permeating trenches from landscaped areas, then seeping along permeable trench backfill into the building and pavement subgrades, resulting in wetting of moisture sensitive subgrade soil under buildings and pavements.

Excavation of utility trenches should be performed in accordance with the project plans, specifications and the *California Construction Safety Orders* (latest Edition). The contractor should be responsible for providing a "competent person" as defined in Article 6 of the *California Construction Safety Orders*. Contractors should be advised that sandy soil could make excavations particularly unsafe if all safety precautions are not properly implemented. In addition, excavations at or near the toe of slopes or parallel to slopes may be highly unstable due to the increased driving force and load on the trench wall. Spoil piles from the excavation(s) and construction equipment should be kept away from the sides of the trenches. Leighton and Associates, Inc. (Leighton) does not consult in the area of safety engineering.

4.2.6 Temporary Slope Stability

Existing site soil and/or fill derived from onsite soil should be considered as OSHA soil Type C. Therefore, unshored temporary cut slopes should be no steeper than 1½:1 (horizontal:vertical), for a height no-greater-than 20 feet (California Construction Safety Orders, Subchapter 4, Section 1541.1, Table B-1). During construction, exposed soil conditions should be regularly evaluated to verify that conditions are as anticipated. The contractor should be responsible for providing the "competent person" required by OSHA standards to evaluate soil conditions. Close coordination between the competent person and geotechnical consultant should be maintained to facilitate construction while providing safe excavations.

4.2.7 Shrinkage

The volume change of excavated on-site soils upon recompaction is expected to vary with material type, density, in situ moisture content, location, and compaction effort. The in-place and compacted densities of soil vary and

accurate overall determination of shrinkage and bulking cannot be made. Therefore, we recommend site grading include, if possible, a balance area or ability to adjust grades slightly to accommodate some variation. Based on our geotechnical laboratory test results, we expect recompaction shrinkage (when recompacted to an average 92 percent of ASTM D 1557) of 5- to 15-percent by volume for the alluvium or Pauba formation.

4.2.8 Drainage

All drainage should be directed away from structures, slopes and pavements by means of approved permanent or temporary drainage devices. Adequate storm drainage of any proposed pad should be provided to avoid wetting of the foundation soil. Irrigation adjacent to buildings should be avoided when possible. As an option, sealed-bottom planter boxes or drought resistant vegetation should be used within 5-feet of buildings.

4.3 Foundation Design

Shallow spread or continuous wall footings bearing on a newly placed properly compacted fill are anticipated for the proposed structures.

4.3.1 Design Parameters – Spread/Continuous Shallow Footings

Footings should be embedded at least 12-inches below lowest adjacent grade for the proposed structures. Footing embedment should be measured from lowest adjacent finished grade, considered as the top of interior slabs-on-grade or the finished exterior grade, excluding landscape topsoil, whichever is lower. Footings located adjacent to utility trenches or vaults should be embedded below an imaginary 1:1 (horizontal:vertical) plane projected upward and outward from the bottom edge of the trench or vault, up towards the footing.

- **Bearing Capacity**: For footings founded on properly compacted fill soil, an allowable vertical bearing capacity of 2,000 pounds-per-square-foot (psf) should be used. The bearing pressure value may be increased by 250 psf for each additional foot of embedment or each additional foot of width to a maximum vertical bearing value of 3,000 psf. These bearing values may be increased by one-third when considering short-term seismic or wind loads. All continuous perimeter or interior footings should be reinforced with at least one No. 5 bar placed both top and bottom.

- **Lateral loads**: Lateral loads may be resisted by friction between the footings and the supporting subgrade. A maximum allowable frictional resistance of 0.35 may be used for design. In addition, lateral resistance may be provided by passive pressures acting against foundations poured neat against properly compacted granular fill. We recommend that an allowable passive pressure based on an equivalent fluid pressure of

350 pounds-per-cubic-foot (pcf) be used in design. These friction and passive values have already been reduced by a factor-of-safety of 1.5.

Slab-on-grade floors utilized with conventional foundations should be designed with a minimum thickness as indicated by the project structural engineer consistent with a modulus of subgrade reaction of 200 pounds-per-square-inch per inch (pci) and reinforced in accordance with the structural engineer's recommendations.

4.3.2 Post-Tension Slab-on-Grade Design

Per Section 1808.6.2 of the 2019 California Building Code, slab-on-grade design for expansive soils (EI>21) should be designed in accordance with WRI/CRSI Design of Slab-On-Ground Foundations or PTI DC 10.5 or any other approved method taking into consideration the anticipated differential movement (ym) and/or differential settlement provided in Section 4.3.4 of this soils report.

PTI Design Category 1 may be applied to lots with an Expansion Index (EI) less than 51 (or PI<20). The following PTI design parameters were derived using VOLFLO 1.5 computer program developed by Geostructural Tool Kit, Inc. and the laboratory test results summarized above:

Table 2. PTI Design Parameters

	Category I (EI<51 & PI<20)
Edge Moisture Variation, e_m	
Center Lift	9.0 feet
Edge Lift	5.1 feet
Differential Swell, y_m	
Center Lift - Shrink	0.46 inches
Edge Lift - Swell	0.88 inches

4.3.3 Vapor Retarder

A moisture retarder should be installed underneath all slabs where moisture condensation is undesirable. The vapor retarder should be sealed at all penetrations and laps and properly installed in accordance with the recommendations of the architect, concrete subcontractor, and the manufacturer's recommendations. Moisture vapor retarders may retard but not eliminate moisture vapor movement from the underlying soils up through the slabs. Moisture vapor transmission may be additionally reduced by use of concrete additives. A slipsheet or equivalent should be utilized above the concrete slab if crack-sensitive floor coverings (such as ceramic tiles, etc.) are to be placed directly on the concrete slab

It has been a standard of care to place a 10-mil Visqueen moisture retarder (or equivalent) underneath all moisture sensitive slabs. This moisture retarder is typically covered by a 2-inch layer of sand (SE of 30 or greater) to reduce curling. Visqueen sheets should overlap at least 6-inches. If storage of moisture sensitive records (files) or floor coverings (e.g. vinyl tile, etc.) are to be used, additional moisture mitigation measures may be employed within or beneath concrete slab-on-grade floors. Moisture retarders do not completely eliminate moisture vapor movement from the underlying soils up through the slabs or from the unbonded water in the concrete. To further reduce moisture vapor emissions that may result in delamination and other tile damage, we recommend that a moisture retarder specialist be consulted.

4.3.4 Settlement Estimates

For settlement estimates, we assumed that column loads will be no larger than 90 kips, with bearing wall loads not exceeding 10 kips per foot of wall. If greater column or wall loads are required, we should re-evaluate our foundation recommendation, and re-calculate settlement estimates.

Buildings located on properly compacted fill soils as required per Section 4.2 should be designed in anticipation of 1 inch of total settlement and 1/2-inch of differential settlement within a 40-foot horizontal run.

4.4 Footing Setback

We recommend a minimum horizontal setback distance from the face of slopes for all structural footings (retaining and decorative walls, building footings, etc.). This distance is measured from the outside bottom edge of the footing horizontally to the slope face (or to the face of a retaining wall) and should be a minimum of H/2, where H is the slope height (in feet). The setback should not be less than 7 feet and need not be greater than 20 feet for this project.

Note that the soils within the structural setback area possess poor lateral stability and improvements (such as retaining walls, sidewalks, fences, pavements, etc.) constructed within this setback area may be subject to lateral movement and/or differential settlement. Potential distress to such improvements may be mitigated by providing a deepened footing or a pier and grade-beam foundation system to support the improvement. The deepened footing should meet the setback as described above.

4.5 Retaining Walls

Retaining wall earth pressures are a function of the amount of wall yielding horizontally under load. If the wall can yield enough to mobilize full shear strength

of the backfill soil, then the wall can be designed for "active" pressure. If the wall cannot yield under the applied load, the shear strength of the soil cannot be mobilized and the earth pressure will be higher. Such walls should be designed for "at rest" conditions. If a structure moves toward the soils, the resulting resistance developed by the soil is the "passive" resistance. Retaining walls backfilled with non-expansive soils can be designed using the following equivalent fluid pressures:

Table 3. Retaining Wall Design Earth Pressures (Static, Drained)

Loading Conditions	Equivalent Fluid Density (pcf)	
	Level Backfill	2:1 Sloped Backfill
Active	35	55
At-Rest	55	75
Passive*	300	150 (2:1, sloping down)

* This assumes level condition in front of the wall will remain for the duration of the project, not to exceed 3,500 psf at depth.

Unrestrained (yielding) cantilever walls should be designed for the active equivalent-fluid weight value provided above for very low to low expansive soils that are free draining (see Appendix C for typical drainage). In the design of walls restrained from movement at the top (non-yielding) such as basement or elevator pit/utility vaults, the at-rest equivalent fluid weight value should be used. Total depth of retained earth for design of cantilever walls should be measured as the vertical distance below the ground surface measured at the wall face for stem design, or measured at the heel of the footing for overturning and sliding calculations. Should a sloping backfill other than a 2:1 (horizontal:vertical) be constructed above the wall (or a backfill is loaded by an adjacent surcharge load), the equivalent fluid weight values provided above should be re-evaluated on an individual case basis by us. Non-standard wall designs should also be reviewed by us prior to construction to check that the proper soil parameters have been incorporated into the wall design.

All retaining walls should be provided with appropriate drainage. The outlet pipe should be sloped to drain to a suitable outlet. Wall backfill should be non-expansive (EI $\leq$ 21) sands compacted by mechanical methods to a minimum of 90 percent relative compaction (ASTM D 1557). Walls should not be backfilled until wall concrete attains the 28-day compressive strength and/or as determined by the Structural Engineer that the wall is structurally capable of supporting backfill. Lightweight compaction equipment should be used, unless otherwise approved by the Structural Engineer.

4.6 Sulfate Attack

The result of our laboratory testing on a soil sample taken from the site showing a low exposure to sulfate attack is included in Appendix B. Further testing should be performed at the completion of site grading to confirm soluble-sulfate content in on-site subgrade soil.

4.7 Preliminary Pavement Design

The preliminary pavement design provided below is based on the design procedures included in Caltrans Highway Design Manual and an R-value of 5. For planning and estimating purposes, the pavement sections are calculated based on assumed Traffic Indexes (TI) and design criteria of 20-year life span.

Table 4. Preliminary Asphalt Pavement Sections

General Traffic Condition	Traffic Index (TI)	Hot Mix Asphalt HMA (ft.)	Aggregate Base* AB (ft.)
Interior Auto Parking	4.5	0.25	0.81
Interior Access Roadways	5.0	0.25	0.86
Truck Access & Driveways	6.0	0.33	1.16
Truck Access & Driveways	7.0	0.33	1.56

The applicable Traffic Index (TI) should be designated by the project civil engineer and actual R-values of the subgrade soils should be verified after completion of site grading to finalize the pavement design.

The upper 6 inches of pavement area subgrade soils should be moisture-conditioned to near optimum moisture content, compacted to at least 95 percent relative compaction (ASTM D 1557) and kept in this condition until the pavement section is constructed. Minimum relative compaction requirements for aggregate base should be 95 percent of the maximum laboratory density as determined by ASTM D 1557. Aggregate base should conform to Greenbook or Caltrans Class 2 aggregate base.

If pavement areas are adjacent to heavily watered landscape areas, some deterioration of the subgrade load bearing capacity may result. Moisture control measures such as deepened curbs or other moisture barrier materials may be used to prevent the subgrade soil from becoming saturated. The use of concrete cutoff or edge barriers should be considered when pavement is planned adjacent to either open (unfinished) or irrigated landscaped areas.

5.0 GEOTECHNICAL CONSTRUCTION SERVICES

Geotechnical review is of paramount importance in engineering practice. Poor performance of many foundation and earthwork projects has been attributed to inadequate construction review. We recommend that Leighton be provided the opportunity to review the grading and foundation plans prior to bid.

Reasonably-continuous construction observation and review during site grading and foundation installation allows for evaluation of the actual soil conditions and the ability to provide appropriate revisions where required during construction. Geotechnical conclusions and preliminary recommendations should be reviewed and verified by Leighton during construction, and revised accordingly if geotechnical conditions encountered vary from our findings and interpretations. Geotechnical observation and testing should be provided:

- After completion of site demolition and clearing,
- During over-excavation of compressible soil,
- During compaction of all fill soil,
- After excavation of all footings and prior to placement of concrete,
- During utility trench backfilling and compaction, and
- When any unusual conditions are encountered.

Additional geotechnical exploration and analysis may be required based on final development plans, for reasons such as significant changes in proposed structures, locations, or footprints. We should review grading (civil) and foundation (structural) plans, and comment further on geotechnical aspects of this project.

6.0 LIMITATIONS

This report was based in part on data obtained from a limited number of observations, site visits, soil excavations, samples and tests. Such information is, by necessity, incomplete. The nature of many sites is such that differing soil or geologic conditions can be present within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. Therefore, our findings, conclusions and recommendations presented in this report are based on the assumption that we (Leighton and Associates, Inc.) will provide geotechnical observation and testing during construction as the Geotechnical Engineer of Record for this project. Please refer to Appendix D, GBA's *Important Information About Your Geotechnical Report*, prepared by the Geoprofessional Business Association (GBA) presenting additional information and limitations regarding geotechnical engineering studies and reports.

This report was prepared for the sole use of Client and their design team, for application to design of the proposed maintenance building, in accordance with generally accepted geotechnical engineering practices at this time in California. Any unauthorized use of or reliance on this report constitutes an agreement to defend and indemnify Leighton and Associates, Inc. from and against any liability, which may arise as a result of such use or reliance, regardless of any fault, negligence, or strict liability of Leighton and Associates, Inc.

REFERENCES

Army Corps of Engineers, Evaluation of Settlement for Dynamic and Transient Loads, Technical Engineering and Design Guides as Adapted from the US Army Corps of Engineers, No. 9, American Society of Civil Engineers Press.

American Society of Civil Engineers, 2016, Minimum Design Loads for Buildings and Other Structures, ASCE/SEI 7-16 Publication.

Bryant, W. A. and Hart, E.W., 2007, Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning with Index to Earthquake Zones Maps: Department of Conservation, Division of Mines and Geology, Special Publication 42. Interim Revision 2007.

California Building Code, 2019, California Code of Regulations Title 24, Part 2, Volume 2 of 2.

California Department of Water Resources, 2014, Water Data Library, viewed October 13, 2014, www.water.ca.gov/waterdatalibrary.

California Geologic Survey (CGS), 2003. The Revised 2002 California Probabilistic Seismic Hazard Maps, June 2003. By Tianquing Cao, William A. Bryant, Badie Rowshandel, David Branum and Christopher J. Wills.

California Geological Survey, (CGS), 2006, Geologic Map of the San Bernardino and Santa Ana 30' X 60' Quadrangle, Southern California, Version 1.0, Compiled by Douglas M. Morton and Fred K. Miller, Open File Report 06-1217.

Hunt, Gail, 2005, Fault-Rupture Hazard Investigation, Proposed Residential Development, Southwest Corner of Clinton Keith Road and Inland Valley Drive, Wildomar, California, dated January 28, 2005, appended to NorCal, 2003

Kennedy, M.P., 1977, "Recency and Character of Faulting Along the Elsinore Fault Zone in Southern Riverside County, California", Special Report 131.

Leighton Consulting Inc., 2005, Geologic Fault Review, Proposed ±5-Acre Parcel APN 362-250-003, Wildomar, County of Riverside, California, dated August 15, 2005, Project No. 601027-001.

Leighton Consulting Inc., 2005, Geologic Fault Review, Proposed ±5-Acre Parcel APN 362-250-004, Wildomar, County of Riverside, California, dated August 15, 5005, Project No. 601027-001.

Leighton Consulting Inc., 2005, Geological Fault Hazard Investigation, Proposed +/-5-Acre Parcel, APN 362-250-003, Wildomar, Riverside County, California, dated September 19, 2005, Project No. 601027-003.

Leighton Consulting Inc., 2005, Geological Fault Investigation, Proposed ±5-Acre Parcel, APN 362-250-004, Wildomar, Riverside County, California, dated September 21, 2005, Project No. 601027-002b

Leighton Consulting Inc., 2021, Due Diligence Fault Hazard Review, Parcel APN 376-410-021, NWC Clinton Keith Road and Wildomar Trail, Wildomar, California, dated June 7, 2021, Project No. 13158.001

OSHPD, 2021, Seismic Design Maps, an interactive computer program on OSHPD website to calculate Seismic Response and Design Parameters based on ASCE 7-16 seismic procedures, https://seismicmaps.org/

Public Works Standard, Inc., 2021, *Greenbook, Standard Specifications for Public Works Construction: 2018 Edition*, BNI Building News, Anaheim, California.

Riverside County Information Technology, 2019, Map My County (website), http://mmc.rivcoit.org/MMC_Public/Viewer.html?Viewer=MMC_Public

Tokimatsu, K., and Seed, H.B., 1987, Evaluation of Settlements in Sands Due to Earthquake Shaking, ASCE Journal of Geotechnical Engineering, Vol. 113, No. 8, dated August.



Project: 13158.003	Eng/Geol: MSB
Scale:1 " = 2,000 '	Date: September 2021

Base Map: ESRI ArcGIS Online 2021
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

SITE LOCATION MAP

Preliminary Geotechnical Evaluation
(APNs 376-410-021 and 376-410-015, -016 & -017)
NWC Clinton Keith Road and Wildomar Trail
Wildomar, California

FIGURE 1

Leighton

Map Saved as V:\Drafting\13158\003\Maps\13158-003_F01_SLM_2021-09-28.mxd on 9/28/2021 12:41:54 PM

LEGEND

- LB-6 — Approximate Location of Boring
- TP-7 — Approximate Location of Test Pit
- Afu — Undocumented Artificial Fill
- Qya — Quaternary Alluvium (Circled Where Buried)
- Qps — Pauba Formation (Circled Where Buried)
- 7-11' — Approximate Remedial Removal Depth
- Geologic Contact, Dotted Where Buried
- Approximate Location of Fault (Leighton, 2006)
- Approximate Site Boundary



Project: 13158.003	Eng/Geol: SIS/MSB
Scale: 1 " = 80 '	Date: October 2021
Base Map: ESRI ArcGIS Online 2021 and	
Author: Leighton Geomatics (btran)	

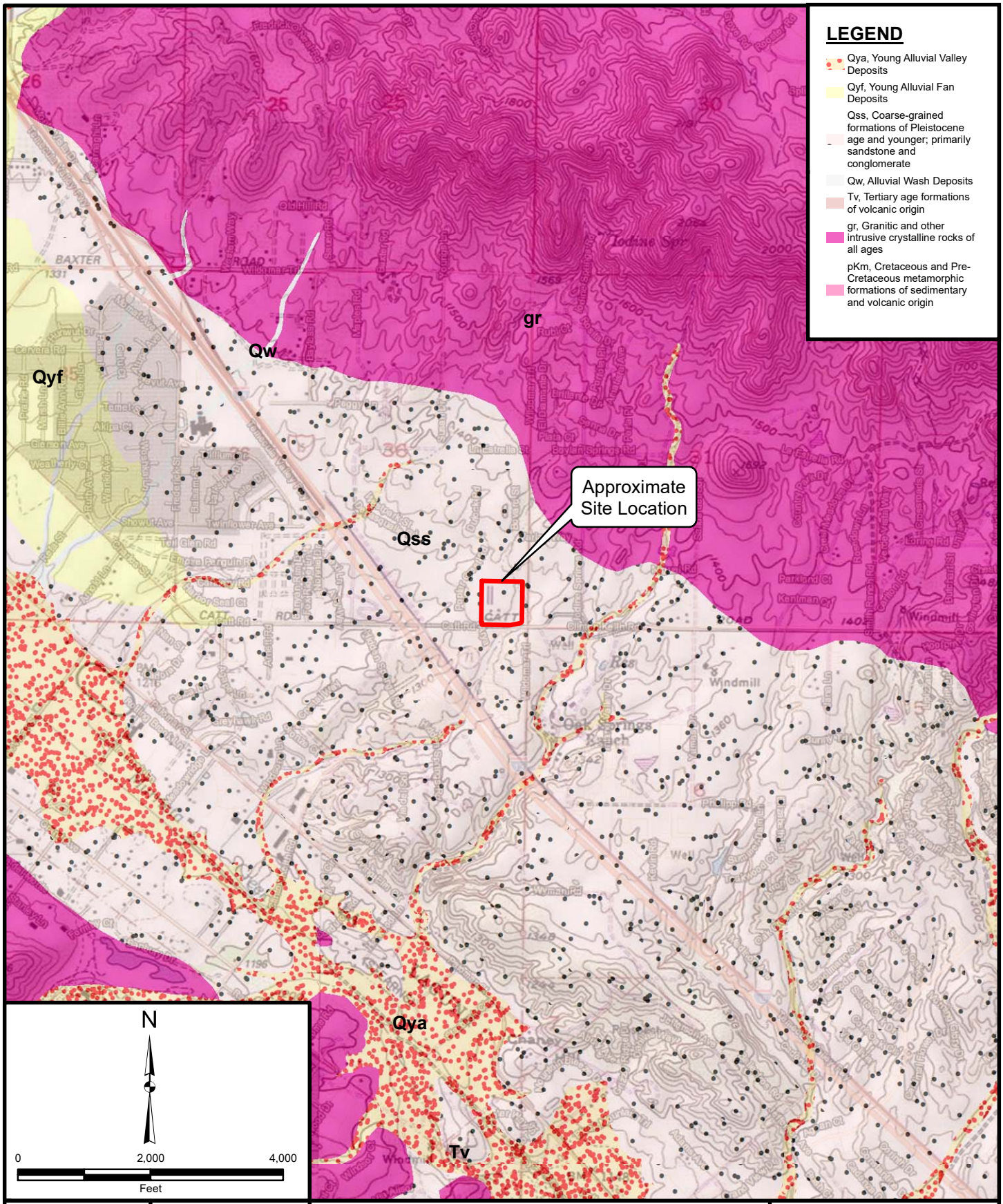
GEOTECHNICAL MAP

Preliminary Geotechnical Evaluation
(APNs 376-410-021 and 376-410-015, -016 & -017)
NWC Clinton Keith Road and Wildomar Trail
Wildomar, California

FIGURE 2

Leighton

Map Saved as V:\Drafting\13158\003\Maps\13158-003_F02_GM_2021-10-04.mxd on 10/4/2021 11:35:52 AM



Project: 13158.003	Eng/Geol: MSB
Scale:1 " = 2,000 '	Date: September 2021
Base Map: ESRI ArcGIS Online 2021 Socal Preliminary Geology, 2010 Author: Leighton Geomatics (btran)	

REGIONAL GEOLOGY MAP

Preliminary Geotechnical Evaluation
(APNs 376-410-021 and 376-410-015, -016 & -017)
NWC Clinton Keith Road and Wildomar Trail
Wildomar, California

FIGURE 3

Leighton

Map Saved as V:\Drafting\13158\003\Maps\13158-003_F03_RGM_2021-09-28.mxd on 9/28/2021 12:47:59 PM

APPENDIX A

LOGS OF EXPLORATORY BORINGS / FIELD EXPLORATION

Encountered earth materials were logged and sampled in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D 2488). During drilling, bulk and relatively undisturbed ring-lined split-barrel driven earth material samples were obtained from our borings for geotechnical laboratory testing and classification. Drive-samples were driven with a 140-pound auto-hammer falling 30-inches. Samples were transported to our in-house Temecula laboratory for geotechnical testing. After logging and sampling, our borings were backfilled with spoils generated during drilling.

The attached subsurface exploration logs and related information depict subsurface conditions only at the locations indicated and at the particular date designated on these logs. Subsurface conditions at other locations may differ from conditions occurring at these logged locations. Passage of time may result in altered subsurface conditions due to environmental changes. In addition, any stratification lines on these logs represent an approximate boundary between sampling intervals and soil types; and transitions may be gradual.

GEOTECHNICAL BORING LOG LB-01

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0								*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
									ARTIFICIAL FILL (Afu):	
				R1	30 34 41	6	131	SC	CLAYEY SAND, dense, brown to strong brown, dry, fine sand	
									PAUBA FORMATION (Qps):	
	5			B1 R2	32 50/5"	7	104	SC-SM	CLAYEY SILTY SAND, very dense, brown to strong brown, slightly moist, fine sand	MD, SA
	10			R3	13 38 50/5"				CLAYEY SILTY SAND with gravel, very dense, reddish brown, slightly moist	
	15			R4	15 40 50/5"	8	125		CLAYEY SILTY SAND, very dense, reddish brown, slightly moist	
	20			R5	28 50/5"			SW-SM	WELL-GRADED SAND with Silt, very dense, reddish brown, moist	
	25								Boring Terminated at 21'6" No Groundwater Encountered Backfilled with Cuttings	
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-02

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B1				CL-SC	**ARTIFICIAL FILL (Afu):**	CR, RV
				R1	28 42 50/5"	127	6	SC	CLAYEY SAND, dense, brown to strong brown, dry, fine sand **PAUBA FORMATION (Qps):**	
	5			R2	32 50/5"	120	6	SC-SM	CLAYEY SILTY SAND, very dense, brown to strong brown, slightly moist, fine sand	
	10			R3	18 23 43			ML	SANDY SILT, hard, brown, slightly moist	
	15			R4	23 42 46	125	8	SC-SM	SILTY CLAYEY SAND, hard, brown, slightly moist	
	20			R5	16 25 43			ML\CL	SANDY SILT, hard, brown, moist	
									Boring Terminated at 21'6" No Groundwater Encountered Backfilled with Cuttings	
	25									
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-03

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**ARTIFICIAL FILL (Afu):** SILTY SAND, brown to strong brown, dry, fine sand	
	5			R1	16 32 36	127	7	SC-SM	**PAUBA FORMATION (Qps):** CLAYEY SILTY SAND, dense, brown, slightly moist, fine sand	
	10			R2	17 32 35				CLAYEY SILTY SAND, dense, brown, slightly moist, fine sand	
	15			R3	20 34 31	121	13	SC	CLAYEY SAND, hard, strong brown, slightly moist, fine sand, (CO = 0.56)	CO
	20			R4	10 16 23	120	5	SM	SILTY SAND, medium dense, yellowish brown, moist, medium sand	
	25			S1	7 11 12				SILTY SAND, medium dense, strong brown, moist	
	30									

SAMPLE TYPES:

- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:

- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-03

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R5	20 23 43	132	8	SM	SILTY SAND, medium dense, brown, moist	
	35			S2	4 7 9			CL	SANDY CLAY, stiff, strong brown, moist	
	40			R6	10 19 35	115	15		SANDY CLAY, dense, brown, moist, fine sand, mottled with miscellaneous highly weathered rock fragments including black, grey, and reddish brown fragments	
	45			S3	6 10 14				SANDY CLAY, medium dense, strong brown, wet, fine sand, mottled with miscellaneous highly weathered rock fragments including black, grey, and reddish brown fragments	
	50			S4	13 16 21				SANDY CLAY, medium dense, pale brown, wet, mottled with miscellaneous highly weathered rock fragments including black, grey, and reddish brown fragments	
	55								Boring Terminated at 51'6" Groundwater Encountered at 42'6" Backfilled with Cuttings	
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-04

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
		N S							*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
	0								**ARTIFICIAL FILL (Afu):**	
				R1	35 50/5"	115	5	SC-SM	CLAYEY SAND, very dense, brown to yellowish brown, dry, fine sand	
	5								**PAUBA FORMATION (Qps):**	
				S1	10 23 25			SM	SILTY SAND, medium dense, brown, slightly moist, fine sand	
	10									
				R2	19 29 31	125	6	SC-SM	CLAYEY SAND, medium dense, brown, slightly moist	
	15			S2	7 8 11			SM	SILTY SAND, medium dense, brown, slightly moist	
									Boring Terminated at 16'6" No Groundwater Encountered Backfilled with Cuttings	
	20									
	25									
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-05

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B1					**ARTIFICIAL FILL (Afu):**	
				R1	30 34	117	6	SC	CLAYEY SAND, dense, brown, dry, fine sand (EI = 33)	
					40				**PAUBA FORMATION (Qps):**	
	5			R2	37 44 48			SM	SILTY SAND, very dense, brown, slightly moist, fine sand	
	10			R3	15 25 30	130	6	SC-SM	CLAYEY SAND, dense, brown to strong brown, slightly moist	
	15			S1	6 5 9			SP-SM	WELL-GRADED SAND with Silt, medium dense, brown, slightly moist	
	20			R4	20 33 41	129	10	SM	SILTY SAND, dense, strong brown to brown, slightly moist	
	25			S2	9 11 15				SILTY SAND, medium dense, strong brown to brown, slightly moist	
	30								Boring Terminated at 26'6" No Groundwater Encountered Backfilled with Cuttings	

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-06

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B1				SM	**ARTIFICIAL FILL (Afu):** SILTY SAND, brown, dry, fine sand, (EI = 17)	SE, EI, SA
	5			R1	13 17 27	113	10	SC	**PAUBA FORMATION (Qps):** CLAYEY SAND, medium dense, brown to strong brown, slightly moist, fine sand	
	10			R2	12 27 29				CLAYEY SAND, dense, brown, slightly moist	
	15			R3	10 19 28	118	12		CLAYEY SAND, very stiff, brown, moist	
	20			R4	17 33 38				CLAYEY SAND, very stiff, brown, moist	
	25								Boring Terminated at 216" No Groundwater Encountered Backfilled with Cuttings	
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

Leighton

LOG OF TRENCH: TP-1

Project Name: Sage Investigation Wildomar
Logged by: MSB
Project Number: 13158.003
Elevation: See Plans
Equipment: JD 310SC Backhoe
Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-1.6' Reworked and compacted Qps as Artificial Fill: Silty SAND to Clayey SAND, very dense, light brown, dry	Afu	SM-SC			
	1.6-3.5' Pauba Formation: Silty Clayey SAND, dense, dark reddish brown, dry, stoneline at bottom (EI=17)	Qps	SC-SM	B-1		
	3.5-6.0+ Unweathered Pauba, Silty SAND to Clayey SAND, dense, light brown, dry		SM-SC			

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 6 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

Leighton

LOG OF TRENCH: TP-2

Project Name: Sage Investigation Wildomar
Logged by: MSB
Project Number: 13158.003
Elevation: See Plans
Equipment: JD 310SC Backhoe
Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-3.8' Artificial Fill: Gravel Silty SAND to Clayey SAND, moderately dense, light brown/gray, dry	Afu	gSM	B-1		
	3.8-6.5+' Pauba Formation; Silty SAND, dense, light brown, dry	Qps	SM	B-2		

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 6.5 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

LOG OF TRENCH: TP-3

Project Name: Sage Investigation Wildomar
Logged by: MSB
Project Number: 13158.003
Elevation: See Plans
Equipment: JD 310SC Backhoe
Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-5+' Artificial Fill: Reworked Qps with gravel Silty SAND, dense, light brown, dry, with pebble gravel	Afu	gSM	B-1		

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 5 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

Leighton

LOG OF TRENCH: TP-4

Project Name: Sage Investigation Wildomar
Logged by: MSB
Project Number: 13158.003
Elevation: See Plans
Equipment: JD 310SC Backhoe
Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-3' Artificial Fill and Alluvium Silty SAND and SILT, loose to medium dense, dark brown	Afu/Qya	SM-ML			
	3-5' Alluvium: Silty SAND, loose, dark brown, dry	Qya	SM	B-1		
	5-10+' Alluvium: Silty SAND, medium dense, brown, dry (moist at 10')					

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 10 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

Leighton

LOG OF TRENCH: TP-5

Project Name: Sage Investigation Wildomar | Logged by: MSB

Project Number: 13158.003 | Elevation: See Plans

Equipment: JD 310SC Backhoe | Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-2.5' Artificial Fill; Silty SAND and Clayey SAND, dense, brown, dry with gravel and rocks	Afu	SM-SC			
	2.5-5' Alluvium; Silty SAND, loose to medium dense, light brown, dry	Qya	SM			
	5-6.5+ Pauba Formation; Sandy CLAY, very dense, reddish brown, dry	Qps	CL			

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 6.5 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

Leighton

LOG OF TRENCH: TP-6

Project Name: Sage Investigation Wildomar | Logged by: MSB

Project Number: 13158.003 | Elevation: See Plans

Equipment: JD 310SC Backhoe | Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-4’ Artificial Fill and Alluvium; Silty SAND, medium dense, brown, dry with few cobbles	Afu/Qya	SM-ML			
	4-8’ Alluvium; Silty SAND, loose, brown, dry	Qya	gSM	B-1		
	8-10’ Silty SAND, medium dense, light brown, dry		SM			

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 10 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

LOG OF TRENCH: TP-7

Project Name: Sage Investigation Wildomar	Logged by: MSB	ENGINEERING PROPERTIES	
Project Number: 13158.003	Elevation: See Plans		
Equipment: JD 310SC Backhoe	Location/Grid: NWC Clinton Keith & George Ave		

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	USCS	Sample No.	Moisture (%)	Density (pcf)
	0-3.5' Pauba Formation; Clayey SAND to CLAY, dense, dark brown, dry with gravel and rocks	Qps	SC-CL			
	3.5-5+' Silty, Clayey SAND, dense, brown, dry (Pauba)	Qps	SM-SC			

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 5 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

APPENDIX B

RESULTS OF GEOTECHNICAL LABORATORY TESTING

Boring No.	LB-1	LB-1	LB-1	LB-2	LB-2	LB-2	LB-3	LB-3
Sample No.	R-1	R-2	R-4	R-1	R-2	R-4	R-1	R-3
Depth (ft.)	2.5	5.0	15.0	2.5	5.0	15.0	5.0	15.0
Sample Type	RING	RING	RING	RING	RING	RING	RING	RING
Visual Soil Classification	**TOP: SC BOTTOM: SC**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC BOTTOM: SC**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC BOTTOM: SC**
Pocket Penetrometer								
Weight Soil + Rings / Tube (gm.)	1272.8	1070.1	1246.1	1238.1	1187.0	1238.8	1250.1	1256.2
Weight of Rings / Tube (gm.)	267.0	267.0	267.0	267.0	267.0	267.0	267.0	267.0
Average Length (in.)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Average Diameter (in.)	2.416	2.416	2.416	2.416	2.416	2.416	2.416	2.416
Wet. Wt. of Soil + Cont. (gm.)	346.6	275.6	369.5	372.8	332.0	367.0	347.1	346.5
Dry Wt. of Soil + Cont. (gm.)	329.2	261.2	344.0	354.2	314.2	344.7	327.0	312.3
Weight of Container (gm)	37.4	50.1	38.1	50.7	37.0	50.9	38.0	49.6
Container No.:	A-1	6	A-11	W	A-30	E	A-27	Y
Wet Density (pcf)	139	111	136	134	127	135	136	137
Moisture Content (%)	**6**	**7**	**8**	**6**	**6**	**8**	**7**	**13**
Dry Density (pcf)	**131**	**104**	**125**	**127**	**120**	**125**	**127**	**121**
Degree of Saturation (%)	57	30	65	50	43	59	58	90

Leighton

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Project Name: Sage Wildomar Geo
Project No.: 13158.003
Client Name: Sage Investco
Tested By: F. Mina Date: 09/23/21

Boring No.	LB-3	LB-3	LB-3	LB-4	LB-4	LB-5	LB-5	LB-5
Sample No.	R-4	R-5	R-6	R-1	R-2	R-1	R-3	R-4
Depth (ft.)	20.0	30.0	40.0	2.5	12.5	2.5	10.0	20.0
Sample Type	RING	RING	RING	RING	RING	RING	RING	RING
Visual Soil Classification	**TOP: SM BOTTOM: SM**	**TOP: SM BOTTOM: SM**	**TOP: (CL)s BOTTOM: (CL)s**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC BOTTOM: SC**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SM BOTTOM: SM**
Pocket Penetrometer								
Weight Soil + Rings / Tube (gm.)	1176.2	1294.0	1221.4	1137.7	1224.7	968.0	1261.8	1286.8
Weight of Rings / Tube (gm.)	267.0	267.0	267.0	267.0	267.0	222.5	267.0	267.0
Average Length (in.)	6.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0
Average Diameter (in.)	2.416	2.416	2.416	2.416	2.416	2.416	2.416	2.416
Wet. Wt. of Soil + Cont. (gm.)	351.2	376.4	335.5	302.7	375.5	251.4	373.9	286.2
Dry Wt. of Soil + Cont. (gm.)	335.9	353.5	297.2	290.9	356.1	239.4	355.3	265.0
Weight of Container (gm)	36.9	50.4	38.3	49.5	38.9	50.2	36.2	50.4
Container No.:	A-17	F	75	DD	A-26	S	A-24	AX
Wet Density (pcf)	126	142	132	121	133	124	138	141
Moisture Content (%)	**5**	**8**	**15**	**5**	**6**	**6**	**6**	**10**
Dry Density (pcf)	**120**	**132**	**115**	**115**	**125**	**117**	**130**	**129**
Degree of Saturation (%)	34	74	86	28	47	38	53	86

Leighton

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Project Name: Sage Wildomar Geo
Project No.: 13158.003
Client Name: Sage Investco
Tested By: F. Mina Date: 09/23/21

Boring No.	LB-6	LB-6						
Sample No.	R-1	R-3						
Depth (ft.)	5.0	15.0						
Sample Type	RING	RING						
Visual Soil Classification	**TOP:** **SC** **BOTTOM:** **SC**	**TOP:** **SC** **BOTTOM:** **SC**						
Pocket Penetrometer								
Weight Soil + Rings / Tube (gm.)	1166.7	1223.1						
Weight of Rings / Tube (gm.)	267.0	267.0						
Average Length (in.)	6.0	6.0						
Average Diameter (in.)	2.416	2.416						
Wet. Wt. of Soil + Cont. (gm.)	738.8	598.2						
Dry Wt. of Soil + Cont. (gm.)	708.0	563.6						
Weight of Container (gm)	414.5	277.8						
Container No.:	C	W						
Wet Density (pcf)	125	132						
Moisture Content (%)	**10**	**12**						
Dry Density (pcf)	**113**	**118**						
Degree of Saturation (%)	57	77						

Leighton

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Project Name: Sage Wildomar Geo

Project No.: 13158.003

Client Name: Sage Investco

Tested By: F. Mina Date: 09/23/21

MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	Sage Wildomar Geo	Tested By:	F. Mina	Date:	09/27/21
Project No.:	13158.003	Input By:	M. Vinet	Date:	09/27/21
Boring No.:	LB-1	Depth (ft.):	5.0		
Sample No.:	B-1				
Soil Identification:	Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.				

Preparation Method: [X] Moist [ ] Dry

[X] Mechanical Ram [ ] Manual Ram

Mold Volume (ft³) 0.03340 *Ram Weight = 10 lb.; Drop = 18 in.*

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	5580	5701	5761	5680		
Weight of Mold (g)	3545	3545	3545	3545		
Net Weight of Soil (g)	2035	2156	2216	2135		
Wet Weight of Soil + Cont. (g)	2242.2	2193.8	2484.8	2403.7		
Dry Weight of Soil + Cont. (g)	2160.0	2101.8	2310.4	2200.0		
Weight of Container (g)	278.0	696.1	279.7	282.3		
Moisture Content (%)	4.4	6.5	8.6	10.6		
Wet Density (pcf)	134.3	142.3	146.3	140.9		
Dry Density (pcf)	128.7	133.6	134.7	127.4		

Maximum Dry Density (pcf) 135.0 **Optimum Moisture Content (%)** 8.0

PROCEDURE USED

[X] **Procedure A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

[ ] **Procedure B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

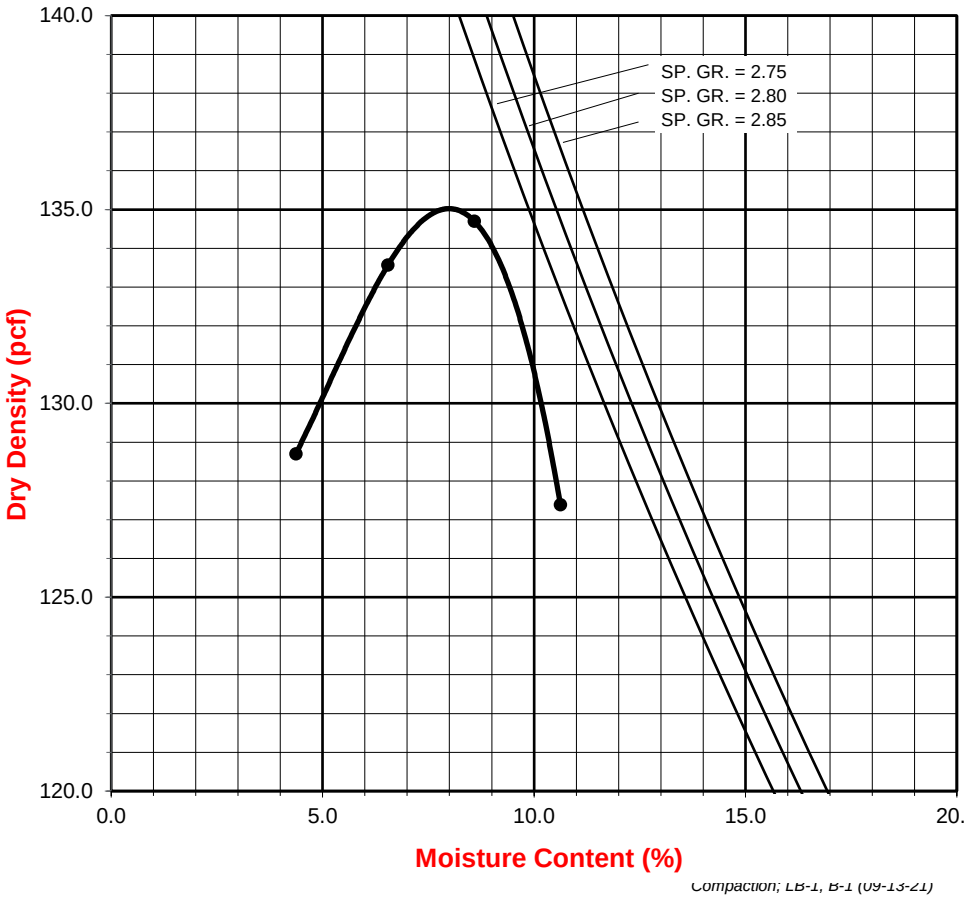
[ ] **Procedure C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:

GR:SA:FI

Atterberg Limits:

LL,PL,PI



Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Sage Wildomar Geo
Project No.: 13158.003
Boring No.: TP-4
Sample No.: B-1
Soil Identification: Silty Sand (SM), Brown.

Tested By: MRV Date: 09/28/21
Checked By: MRV Date: 09/28/21
Depth (feet): 3.0 - 10.0

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	P	P	Wt. of Air-Dry Soil + Cont.(g)	1168.1	1046.1
Wt. Air-Dried Soil + Cont.(g)	1168.1	1046.1	Wt. of Dry Soil + Cont. (g)	1145.7	1046.1
Wt. of Container (g)	716.0	716.0	Wt. of Container No._____(g)	716.0	716.0
Dry Wt. of Soil (g)	429.8	330.1	Moisture Content (%)	5.2	0.0

Passing #4 Material After Wet Sieve		
	Container No.	P
	Wt. of Dry Soil + Container (g)	902.8
	Wt. of Container (g)	716.0
	Dry Wt. of Soil Retained on # 200 Sieve (g)	186.8

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
1 1/2"	37.500			100.0
1"	25.000			100.0
3/4"	19.000			100.0
1/2"	12.500	0.0		100.0
3/8"	9.500	1.4		99.7
#4	4.750	9.2		97.9
#8	2.360		13.4	93.9
#16	1.180		31.2	88.6
#30	0.600		50.5	82.9
#50	0.300		74.1	75.9
#100	0.150		111.4	64.9
#200	0.075		172.8	46.7
PAN				

GRAVEL: 2 %
SAND: 51 %
FINES: 47 %
GROUP SYMBOL: SM

Cu = D60/D10 = N/A
Cc = $(D30)^2/(D60*D10)$ = N/A

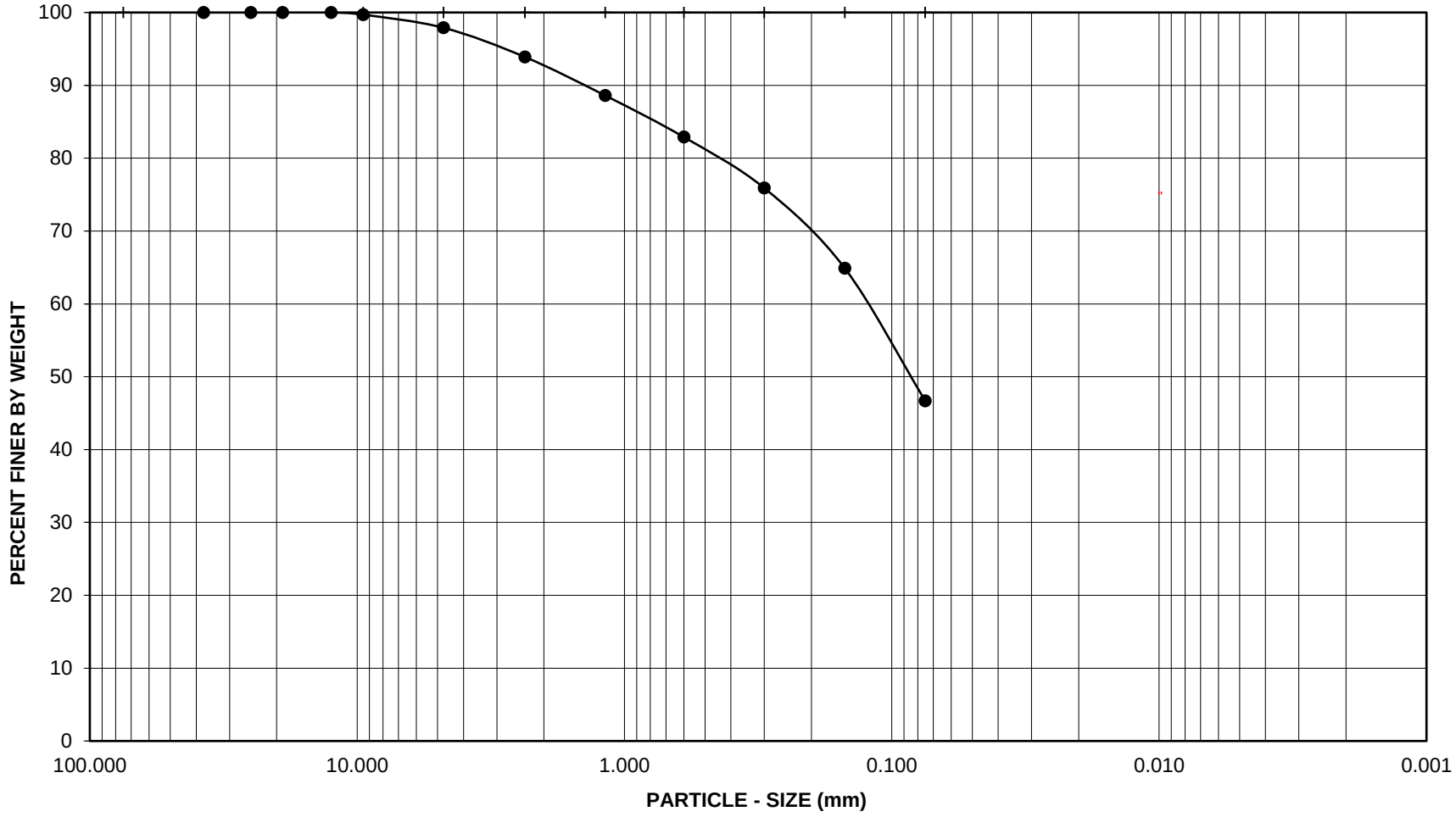
Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: Sage Wildomar Geo

Project No.: 13158.003

Boring No.: TP-4 Sample No.: B-1

Depth (feet): 3.0 - 10.0 Soil Type : SM

Soil Identification: Silty Sand (SM), Brown.

GR:SA:FI : (%) 2 : 51 : 47

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Sep-21

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Sage Wildomar Geo | Tested By: MRV | Date: 09/28/21

Project No.: 13158.003 | Checked By: MRV | Date: 09/28/21

Boring No.: LB-1 | Depth (feet): 5.0

Sample No.: B-1

Soil Identification: Silty, Clayey Sand (SC-SM), Dark Reddish Brown.

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	S	S	Wt. of Air-Dry Soil + Cont.(g)	2193.8	1016.1
Wt. Air-Dried Soil + Cont.(g)	2193.8	1016.1	Wt. of Dry Soil + Cont. (g)	2101.8	1016.1
Wt. of Container (g)	696.1	696.1	Wt. of Container No._____(g)	696.1	696.1
Dry Wt. of Soil (g)	1406.3	320.0	Moisture Content (%)	6.5	0.0

Passing #4 Material After Wet Sieve		
	Container No.	S
	Wt. of Dry Soil + Container (g)	892.2
	Wt. of Container (g)	696.1
	Dry Wt. of Soil Retained on # 200 Sieve (g)	196.1

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
1 1/2"	37.500			100.0
1"	25.000			100.0
3/4"	19.000	0.0		100.0
1/2"	12.500	5.3		99.6
3/8"	9.500	14.6		99.0
#4	4.750	94.7		93.3
#8	2.360		19.1	87.7
#16	1.180		54.4	77.4
#30	0.600		87.5	67.8
#50	0.300		120.0	58.3
#100	0.150		152.3	48.9
#200	0.075		189.8	38.0
PAN				

GRAVEL: **7 %**

SAND: **55 %**

FINES: **38 %**

GROUP SYMBOL: **SC-SM**

Cu = D60/D10 = N/A

Cc = $(D30)^2/(D60*D10)$ = N/A

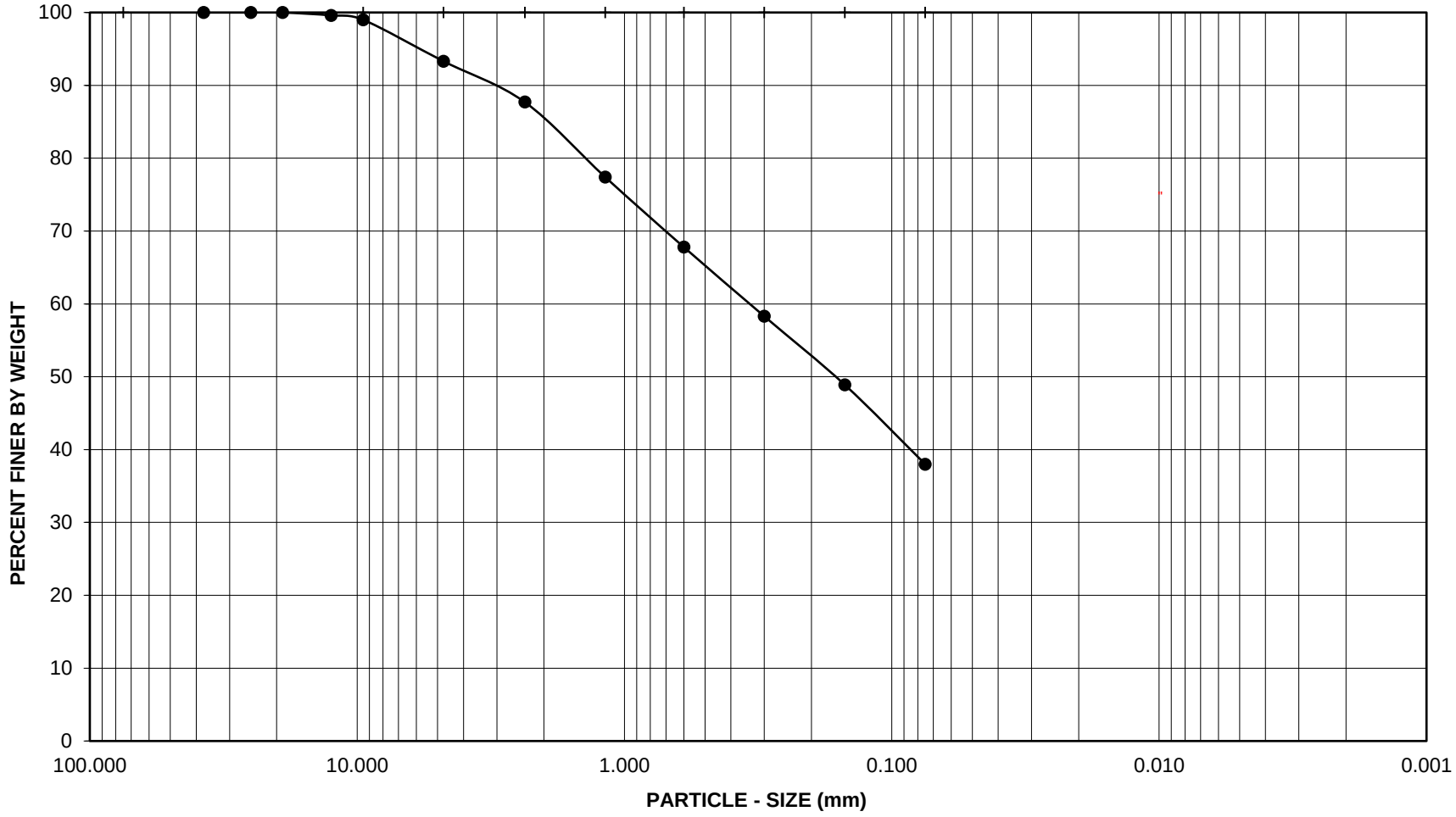
Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: Sage Wildomar Geo

Project No.: 13158.003

Boring No.: LB-1 Sample No.: B-1

Depth (feet): 5.0 Soil Type : SC-SM

Soil Identification: Silty, Clayey Sand (SC-SM), Dark Reddish Brown.

GR:SA:FI : (%) 7 : 55 : 38

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Sep-21

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Sage Wildomar Geo | Tested By: MRV | Date: 09/28/21

Project No.: 13158.003 | Checked By: MRV | Date: 09/28/21

Boring No.: LB-6 | Depth (feet): 0.0

Sample No.: B-1

Soil Identification: Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	B	B	Wt. of Air-Dry Soil + Cont.(g)	2137.6	988.6
Wt. Air-Dried Soil + Cont.(g)	2137.6	988.6	Wt. of Dry Soil + Cont. (g)	2059.2	988.6
Wt. of Container (g)	673.2	673.2	Wt. of Container No._____(g)	673.2	673.2
Dry Wt. of Soil (g)	1385.4	315.4	Moisture Content (%)	5.7	0.0

Passing #4 Material After Wet Sieve		
	Container No.	B
	Wt. of Dry Soil + Container (g)	868.5
	Wt. of Container (g)	673.2
	Dry Wt. of Soil Retained on # 200 Sieve (g)	195.3

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
1 1/2"	37.500	0.0		100.0
1"	25.000	46.5		96.6
3/4"	19.000	70.5		94.9
1/2"	12.500	94.3		93.2
3/8"	9.500	99.0		92.9
#4	4.750	149.5		89.2
#8	2.360		31.3	80.3
#16	1.180		65.1	70.8
#30	0.600		91.4	63.4
#50	0.300		117.0	56.1
#100	0.150		149.0	47.1
#200	0.075		188.2	36.0
PAN				

GRAVEL: **11 %**

SAND: **53 %**

FINES: **36 %**

GROUP SYMBOL: **SC-SM**

Cu = D60/D10 = N/A

Cc = $(D30)^2/(D60*D10)$ = N/A

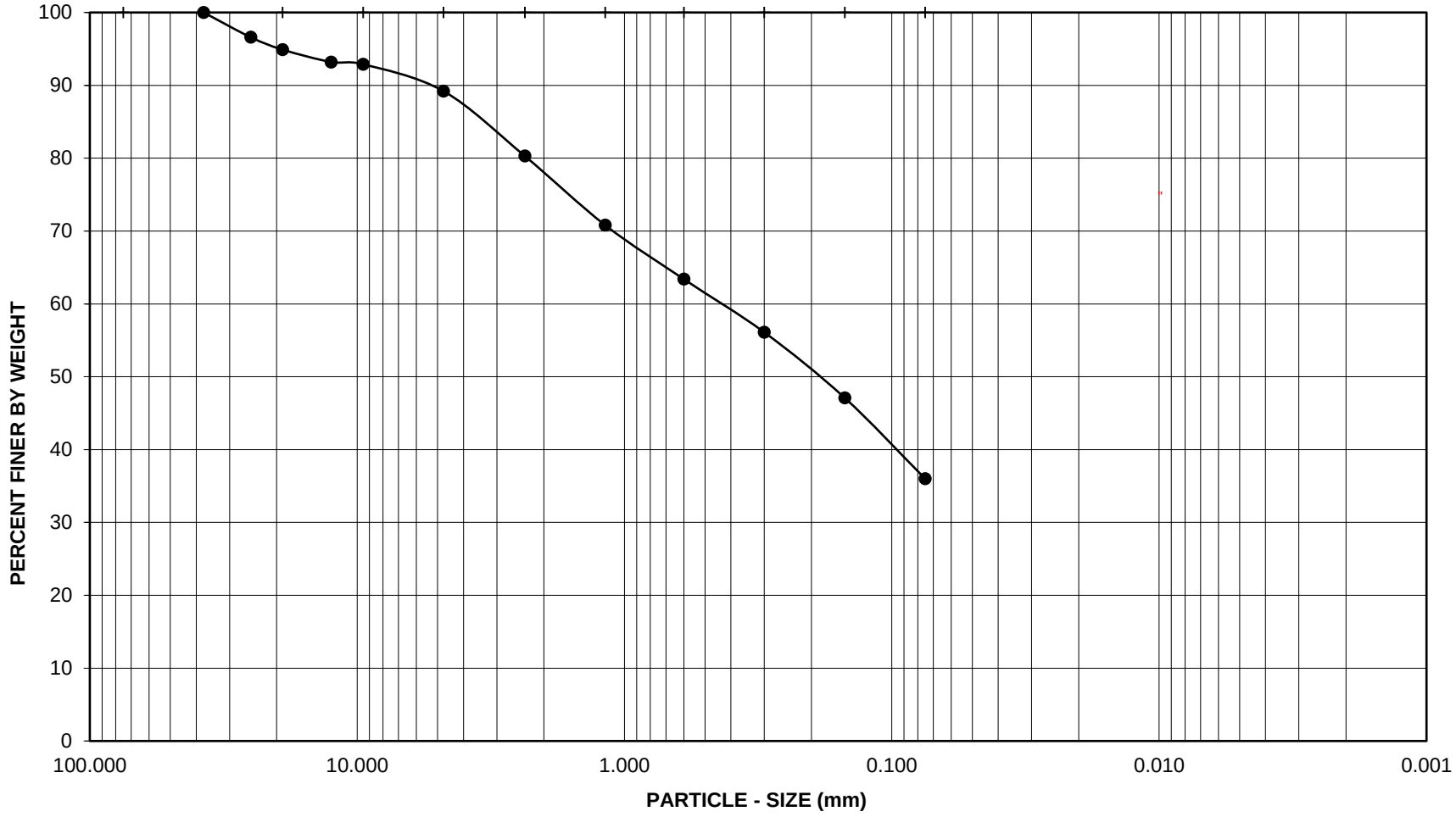
Remarks:

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: Sage Wildomar Geo

Project No.: 13158.003

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LB-6 Sample No.: B-1

Depth (feet): 0.0 Soil Type : SC-SM

Soil Identification: Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.

GR:SA:FI : (%) 11 : 53 : 36

Sep-21

Boring No.	LB-3							
Sample No.	S-2							
Depth (ft.)	35.0							
Sample Type	SPT							
Soil Classification	s(CL)							
Soak Time (min)	10							
Moisture Correction								
Wet Weight of Soil + Container (gm.)	853.7							
Dry Weight of Soil + Container (gm.)	829.8							
Weight of Container (gm)	699.6							
Moisture Content (%)	18.4							
Container No.:	1							
Sample Dry Weight Determination								
Weight of Sample + Container (gm.)	829.8							
Weight of Container (gm.)	699.6							
Weight of Dry Sample (gm.)	130.2							
Container No.:	1							
After Wash								
Dry Weight of Sample + Container (gm)	739.0							
Weight of Container (gm)	699.6							
Dry Weight of Sample (gm)	39.4							
% Passing No. 200 Sieve	**70**							
% Retained No. 200 Sieve	30							

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: Sage Wildomar Geo
Project No.: 13158.003
Client Name: Sage Investco
Tested By: F. Mina Date: 09/24/21

One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546) -- Method 'B'

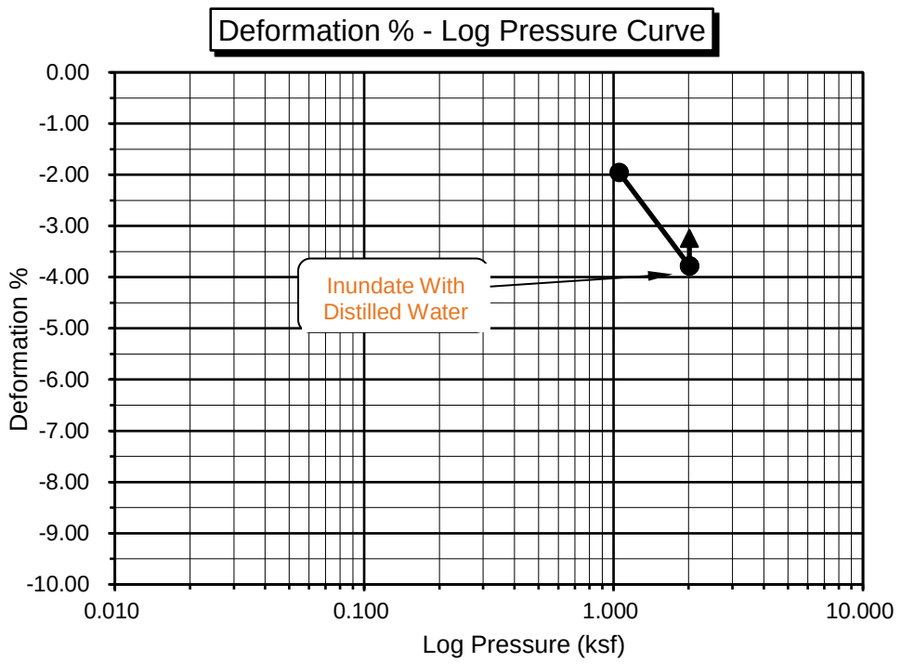
Project Name: Sage Wildomar Geo — Tested By: F. Mina — Date: 9/23/21
Project No.: 13158.003 — Checked By: M. Vinet — Date: 9/28/21
Boring No.: LB-3 — Sample Type: IN SITU
Sample No.: R-3 — Depth (ft.) 15.0
Sample Description: Clayey Sand (SC), Dark Reddish Brown.
Source and Type of Water Used for Inundation: Arrowhead (Distilled)
** Note: Loading After Wetting (Inundation) not Performed Using this Test Method.

Initial Dry Density (pcf):	116.2
Initial Moisture (%):	13.5
Initial Height (in.):	1.0000
Initial Dial Reading (in):	0.0000
Inside Diameter of Ring (in):	2.416

Final Dry Density (pcf):	120.1
Final Moisture (%) :	15.8
Initial Void ratio:	0.4509
Specific Gravity (assumed):	2.70
Initial Degree of Saturation (%):	80.9

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
1.050	0.0195	0.9805	0.00	-1.95	0.4226	-1.95
2.013	0.0378	0.9622	0.00	-3.78	0.3961	-3.78
H2O	0.0324	0.9676	0.00	-3.24	0.4039	-3.24

Percent Swell / Settlement After Inundation = **0.56**



Rev. 01-10

TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: Sage Wildomar Geo Tested By : F. Mina Date: 09/28/21

Project No. : 13158.003 Data Input By: M. Vinet Date: 09/28/21

Boring No.	LB-2	TP-6		
Sample No.	B-1	B-1		
Sample Depth (ft)	0.0	4.0 - 10.0		
Soil Identification:	Lean Clay with Sand (CL)s	Silty Sand (SM)		
Wet Weight of Soil + Container (g)	100.00	100.00		
Dry Weight of Soil + Container (g)	100.00	100.00		
Weight of Container (g)	0.00	0.00		
Moisture Content (%)	0.00	0.00		
Weight of Soaked Soil (g)	100.00	100.00		

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	1	2		
Crucible No.	1	2		
Furnace Temperature (°C)	850	850		
Time In / Time Out	Timer	Timer		
Duration of Combustion (min)	45	45		
Wt. of Crucible + Residue (g)	25.0275	24.7653		
Wt. of Crucible (g)	25.0250	24.7623		
Wt. of Residue (g) (A)	0.0025	0.0030		
PPM of Sulfate (A) x 41150	102.88	123.45		
PPM of Sulfate, Dry Weight Basis	**103**	**123**		

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	30	30		
ml of AgNO3 Soln. Used in Titration (C)	1.4	0.6		
PPM of Chloride (C -0.2) * 100 * 30 / B	120	40		
PPM of Chloride, Dry Wt. Basis	**120**	**40**		

pH TEST, DOT California Test 643

pH Value	**7.90**	**7.20**		
Temperature °C	21.0	21.0		

SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	Sage Wildomar Geo		Tested By :	F. Mina	Date: 09/28/21
Project No. :	13158.003		Data Input By:	M. Vinet	Date: 09/28/21
Boring No.:	LB-2		Depth (ft.) :	0.0	
Sample No. :	B-1				

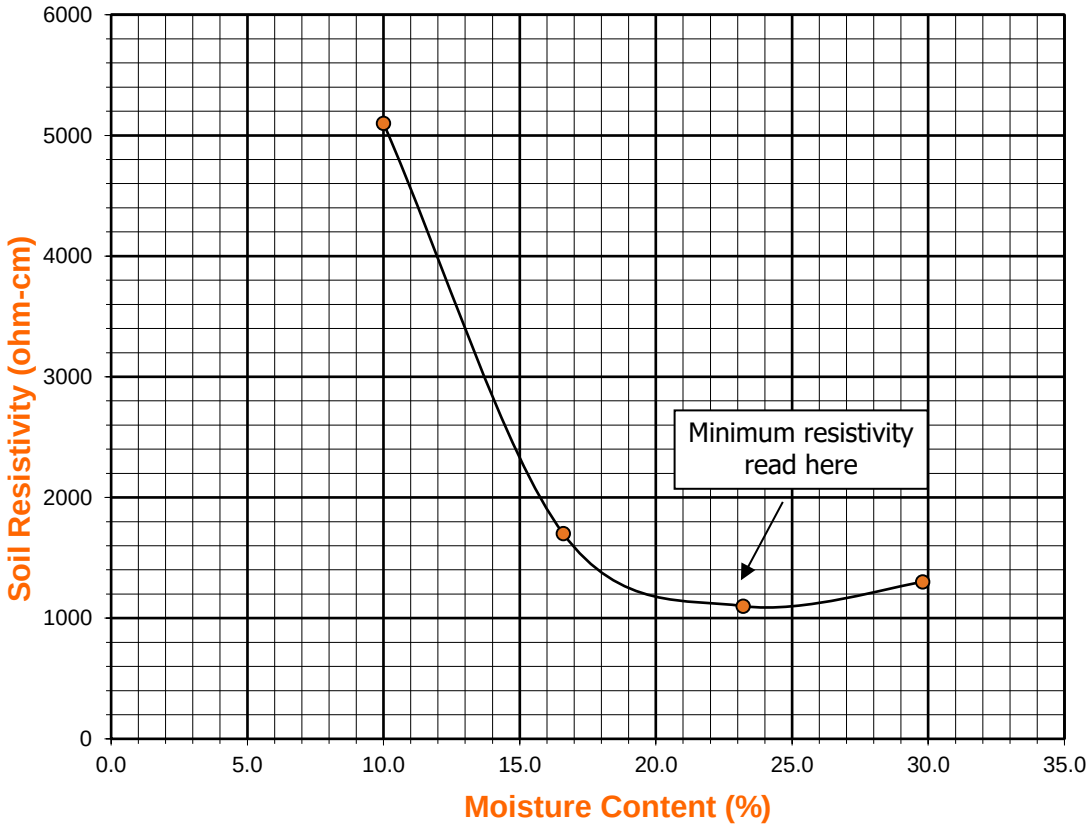
Soil Identification:* Lean Clay with Sand (CL)s

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	50	10.00	5100	5100
2	83	16.60	1700	1700
3	116	23.20	1100	1100
4	149	29.80	1300	1300
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	100.00
Dry Wt. of Soil + Cont. (g)	100.00
Wt. of Container (g)	0.00
Container No.	A
Initial Soil Wt. (g) (Wt)	500.00
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
1100	**23.2**	**103**	**120**	**7.90**	**21.0**



SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name: Sage Wildomar Geo
Project No. : 13158.003
Boring No.: TP-6
Sample No. : B-1
Soil Identification:* Silty Sand (SM)

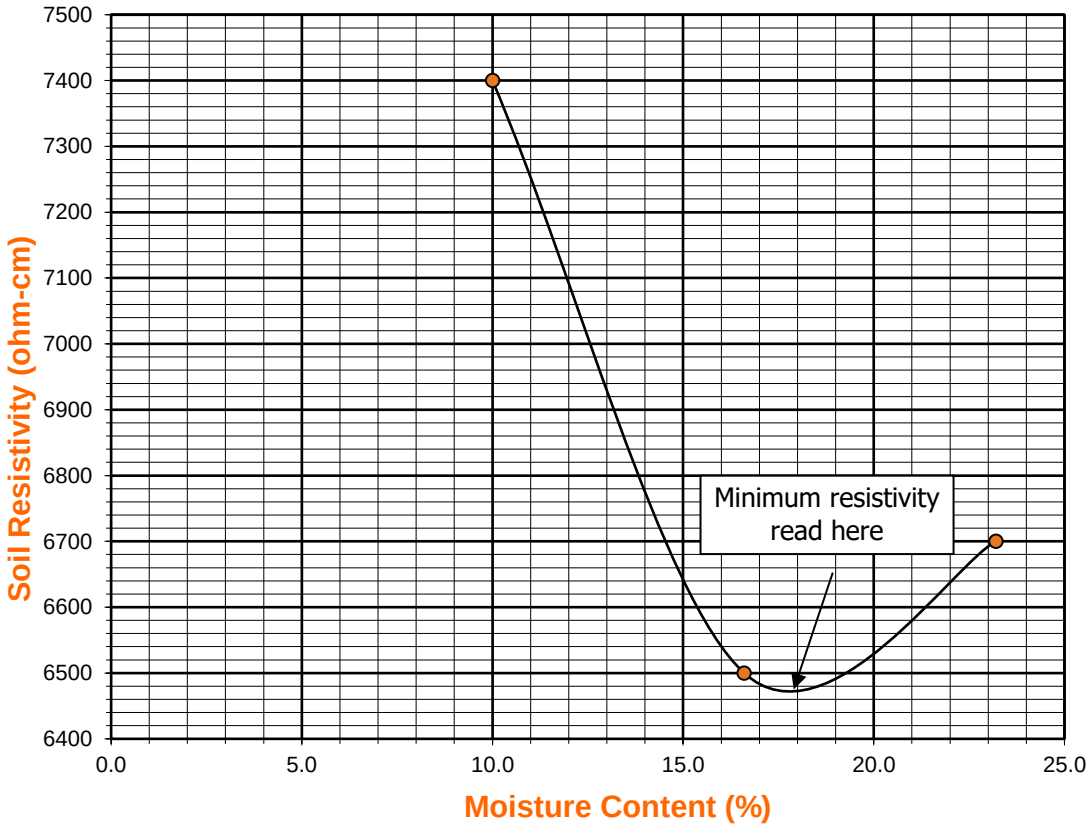
Tested By : F. Mina Date: 09/28/21
Data Input By: M. Vinet Date: 09/28/21
Depth (ft.) : 4.0 - 10.0

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	50	10.00	7400	7400
2	83	16.60	6500	6500
3	116	23.20	6700	6700
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	100.00
Dry Wt. of Soil + Cont. (g)	100.00
Wt. of Container (g)	0.00
Container No.	A
Initial Soil Wt. (g) (Wt)	500.00
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
6475	**18.0**	**123**	**40**	**7.20**	**21.0**



EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Sage Wildomar Geo	Tested By:	F. Mina	Date:	9/27/21
Project No. :	13158.003	Checked By:	M. Vinet	Date:	9/28/21
Boring No.:	LB-6	Depth:	0.0		
Sample No. :	B-1	Location:	N/A		
Sample Description:	Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.				

Dry Wt. of Soil + Cont. (gm.)	1385.4
Wt. of Container No. (gm.)	0.0
Dry Wt. of Soil (gm.)	1385.4
Weight Soil Retained on #4 Sieve	149.5
Percent Passing # 4	89.2

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0169
Wt. Comp. Soil + Mold (gm.)	620.1	642.3
Wt. of Mold (gm.)	200.4	200.4
Specific Gravity (Assumed)	2.70	2.70
Container No.	8	8
Wet Wt. of Soil + Cont. (gm.)	300.0	642.3
Dry Wt. of Soil + Cont. (gm.)	276.5	386.8
Wt. of Container (gm.)	0.0	200.4
Moisture Content (%)	8.5	14.2
Wet Density (pcf)	126.6	131.1
Dry Density (pcf)	116.7	114.7
Void Ratio	0.445	0.469
Total Porosity	0.308	0.319
Pore Volume (cc)	63.7	67.2
Degree of Saturation (%) [S meas]	**51.6**	**81.9**

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h.

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
9/27/21	13:00	1.0	0	0.5000
9/27/21	13:10	1.0	10	0.5000
	Add Distilled Water to the Specimen			
9/28/21	7:00	1.0	1070	0.5169
9/28/21	8:00	1.0	1130	0.5169

Expansion Index (EI meas) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	16.9
Expansion Index (Report) = Nearest Whole Number or Zero (0) if Initial Height is > than Final Heigh	**17**

Rev. 03-08

EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Sage Wildomar Geo	Tested By:	F. Mina	Date:	9/27/21
Project No. :	13158.003	Checked By:	M. Vinet	Date:	9/28/21
Boring No.:	TP-1	Depth:	1.6 - 3.5		
Sample No. :	B-1	Location:	N/A		
Sample Description:	Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.				

Dry Wt. of Soil + Cont. (gm.)	1270.9
Wt. of Container No. (gm.)	0.0
Dry Wt. of Soil (gm.)	1270.9
Weight Soil Retained on #4 Sieve	64.1
Percent Passing # 4	95.0

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0165
Wt. Comp. Soil + Mold (gm.)	615.2	633.5
Wt. of Mold (gm.)	199.4	199.4
Specific Gravity (Assumed)	2.70	2.70
Container No.	7	7
Wet Wt. of Soil + Cont. (gm.)	300.0	633.5
Dry Wt. of Soil + Cont. (gm.)	276.5	383.2
Wt. of Container (gm.)	0.0	199.4
Moisture Content (%)	8.5	13.3
Wet Density (pcf)	125.4	128.8
Dry Density (pcf)	115.6	113.7
Void Ratio	0.458	0.482
Total Porosity	0.314	0.325
Pore Volume (cc)	65.1	68.5
Degree of Saturation (%) [S meas]	**50.1**	**74.3**

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h.

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
9/27/21	12:00	1.0	0	0.5000
9/27/21	12:10	1.0	10	0.5000
	Add Distilled Water to the Specimen			
9/28/21	7:00	1.0	1130	0.5165
9/28/21	8:00	1.0	1190	0.5165

Expansion Index (EI meas) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	16.5
Expansion Index (Report) = Nearest Whole Number or Zero (0) if Initial Height is > than Final Heigh	**17**

Rev. 03-08

EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Sage Wildomar Geo	Tested By:	F. Mina	Date:	10/18/21
Project No. :	13158.003	Checked By:	M. Vinet	Date:	10/19/21
Boring No.:	LB-5	Depth:	2.5 - 5.0		
Sample No. :	R-1 & R-2	Location:	N/A		
Sample Description:	Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.				

Dry Wt. of Soil + Cont. (gm.)	1501.2
Wt. of Container No. (gm.)	0.0
Dry Wt. of Soil (gm.)	1501.2
Weight Soil Retained on #4 Sieve	34.1
Percent Passing # 4	97.7

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0327
Wt. Comp. Soil + Mold (gm.)	612.0	639.1
Wt. of Mold (gm.)	200.4	200.4
Specific Gravity (Assumed)	2.70	2.70
Container No.	4	4
Wet Wt. of Soil + Cont. (gm.)	300.0	639.1
Dry Wt. of Soil + Cont. (gm.)	276.5	379.4
Wt. of Container (gm.)	0.0	200.4
Moisture Content (%)	8.5	15.6
Wet Density (pcf)	124.2	128.1
Dry Density (pcf)	114.4	110.8
Void Ratio	0.473	0.521
Total Porosity	0.321	0.343
Pore Volume (cc)	66.5	73.3
Degree of Saturation (%) [S meas]	**48.5**	**81.0**

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h.

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
10/18/21	14:00	1.0	0	0.5000
10/18/21	14:10	1.0	10	0.5000
	Add Distilled Water to the Specimen			
10/19/21	5:30	1.0	920	0.5327
10/19/21	6:30	1.0	980	0.5327

Expansion Index (EI meas) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	32.7
Expansion Index (Report) = Nearest Whole Number or Zero (0) if Initial Height is > than Final Height	**33**

Rev. 03-08

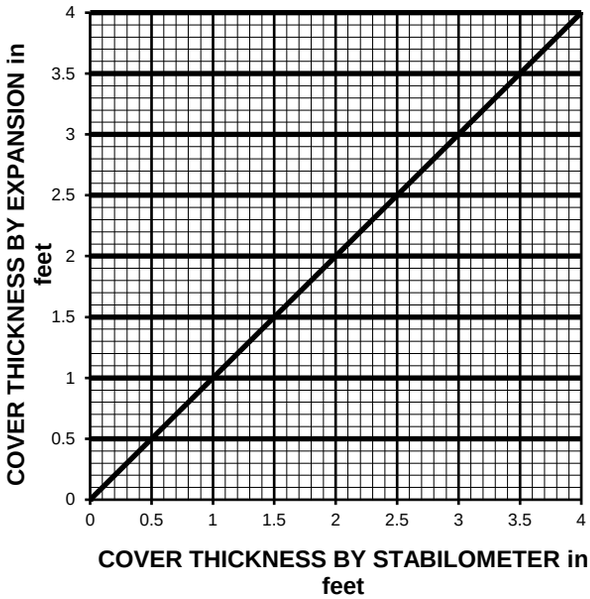
R-VALUE TEST RESULTS
ASTM D 2844

Project Name:	Sage Wildomar Geo	Date:	9/9/21
Project Number:	13158.003	Technician:	F. Mina
Boring Number:	LB-2	Depth (ft.):	0.0
Sample Number:	B-1	Sample Location:	N/A
Sample Description:	Lean Clay with Sand (CL)s, Dark Reddish Brown.		

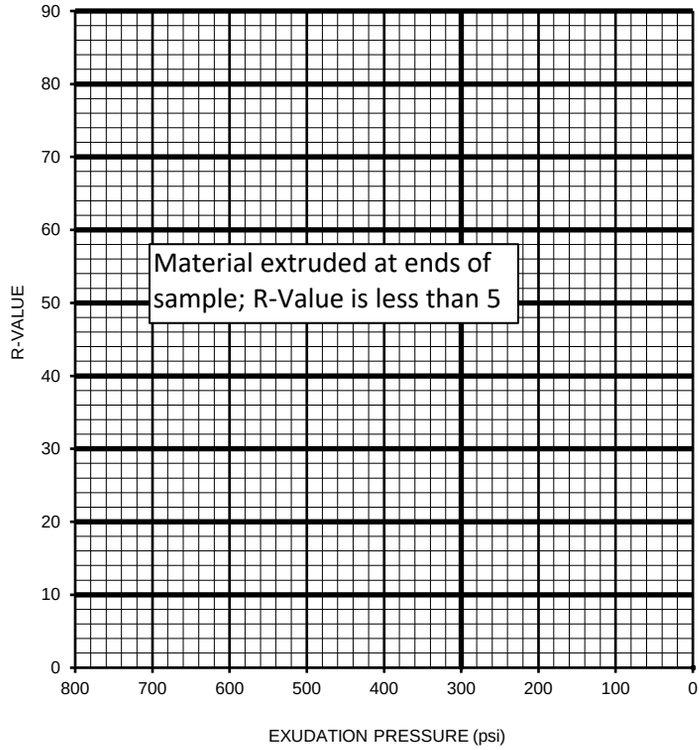
TEST SPECIMEN	A	B	C
MOISTURE AT COMPACTION %			
HEIGHT OF SAMPLE, Inches			
DRY DENSITY, pcf			
COMPACTOR AIR PRESSURE, psi			
EXUDATION PRESSURE, psi			
EXPANSION, Inches x 10exp-4			
STABILITY Ph 2,000 lbs (160 psi)			
TURNS DISPLACEMENT			
R-VALUE UNCORRECTED	N/A	N/A	N/A
R-VALUE CORRECTED	N/A	N/A	N/A

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	0.0	0.0	0.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	N/A	N/A	N/A
EXPANSION PRESSURE THICKNESS, ft.	N/A	N/A	N/A

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	N/A
R-VALUE BY EXUDATION:	N/A
EQUILIBRIUM R-VALUE:	< 5

SAND EQUIVALENT TEST

ASTM D 2419 / DOT CA Test 217

Project Name:	Sage Wildomar Geo	Tested By:	F. Mina	Date:	9/28/21
Project No. :	13158.003	Computed By:	F. Mina	Date:	9/28/21
Client:	Sage Investco	Checked By:	M. Vinet	Date:	9/28/21

Boring No.	Sample No.	Depth (ft.)	Soil Description	T1	T2	T3	T4	R1	R2	SE	Average SE
LB-6	B-1	0.0	Silty, Clayey Sand (SC-SM)	09:10	09:20	09:22	09:42	11.5	1.6	14	**15**
				09:12	09:22	09:24	09:44	11.9	1.7	15	

T1 = Starting Time

T2 = (T1 + 10 min) Begin Agitation

T3 = Settlement Starting Time

T4 = (T3 + 20 min) Take Clay Reading (R1)

Sand Equivalent = R2 / R1 * 100

Record SE as Next Higher Integer

APPENDIX C

EARTHWORK AND GRADING SPECIFICATIONS

APPENDIX C

GENERAL EARTHWORK AND GRADING SPECIFICATIONS

TABLE OF CONTENTS

Section			Page
1.0	GENERAL		1
	1.1	Intent	1
	1.2	The Geotechnical Consultant of Record	1
	1.3	The Earthwork Contractor	2
2.0	PREPARATION OF AREAS TO BE FILLED		2
	2.1	Clearing and Grubbing	2
	2.2	Processing	3
	2.3	Overexcavation	3
	2.4	Benching	3
	2.5	Evaluation/Acceptance of Fill Areas	3
3.0	FILL MATERIAL		4
	3.1	General	4
	3.2	Oversize	4
	3.3	Import	4
4.0	FILL PLACEMENT AND COMPACTION		4
	4.1	Fill Layers	4
	4.2	Fill Moisture Conditioning	5
	4.3	Compaction of Fill	5
	4.4	Compaction of Fill Slopes	5
	4.5	Compaction Testing	5
	4.6	Frequency of Compaction Testing	5
	4.7	Compaction Test Locations	6
5.0	SUBDRAIN INSTALLATION		6
6.0	EXCAVATION		6
7.0	TRENCH BACKFILLS		6
	7.1	Safety 6	
	7.2	Bedding & Backfill	7
	7.3	Lift Thickness	7
	7.4	Observation and Testing	7

Standard Details

A - Keying and Benching	Rear of Text
B - Oversize Rock Disposal	Rear of Text
C - Canyon Subdrains	Rear of Text
D - Buttress or Replacement Fill Subdrains	Rear of Text
E - Transition Lot Fills and Side Hill Fills	Rear of Text
Retaining Wall	Rear of Text

1.0 General

1.1 Intent

These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ the Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultants shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required. Subsurface areas to be geotechnically observed, mapped, elevations recorded, and/or tested include natural ground after it has been cleared for receiving fill but before fill is placed, bottoms of all "remedial removal" areas, all key bottoms, and benches made on sloping ground to receive fill.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to determine the attained level of compaction. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor

The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the plans and specifications.

The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of "spreads" of work and the estimated quantities of daily earthwork contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate observations and tests can be planned and accomplished. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). No fill lift shall contain more than 5 percent of organic matter. Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed.

2.2 Processing

Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until soils are broken down and free of large clay lumps or clods and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Overexcavation

In addition to removals and overexcavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be overexcavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise overexcavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant

prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of Section 3.1. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557).

4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557.

4.5 Compaction Testing

Field-tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing

Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations

The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 Safety

The Contractor shall follow all OSHA and Cal/OSHA requirements for safety of trench excavations.

7.2 Bedding and Backfill

All bedding and backfill of utility trenches shall be performed in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of relative compaction from 1 foot above the top of the conduit to the surface.

The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

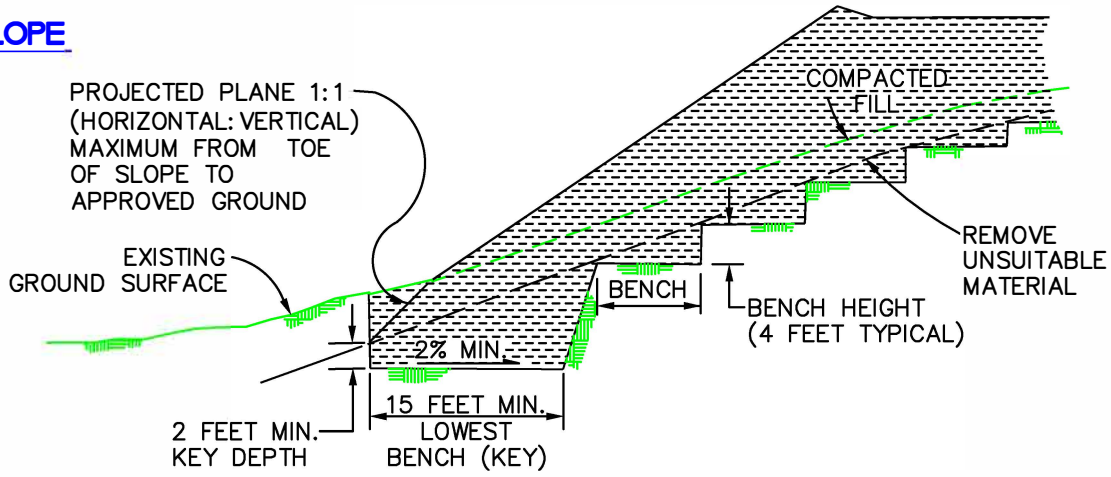
7.3 Lift Thickness

Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

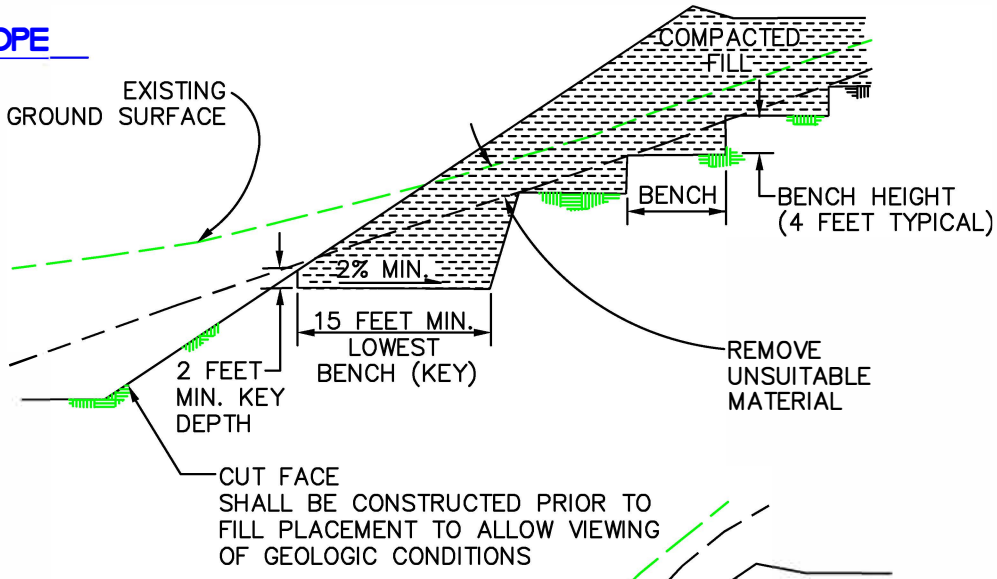
7.4 Observation and Testing

The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.

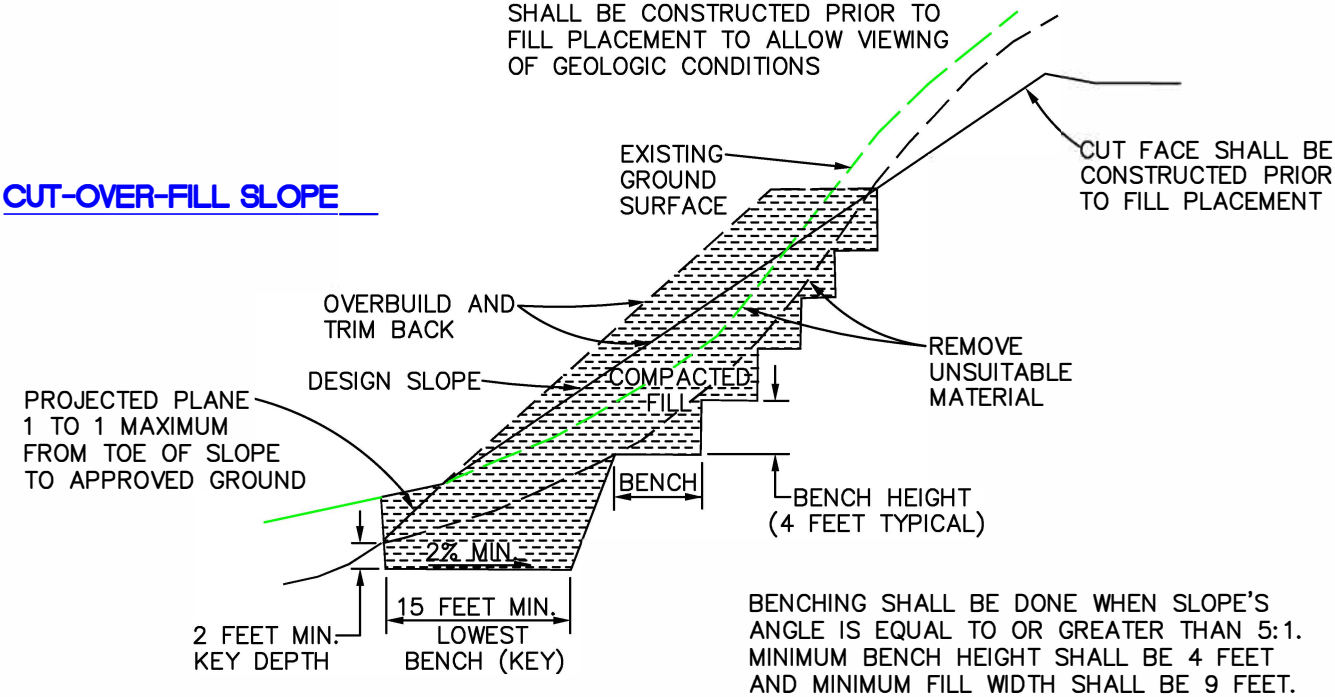
FILL SLOPE



FILL-OVER-CUT SLOPE

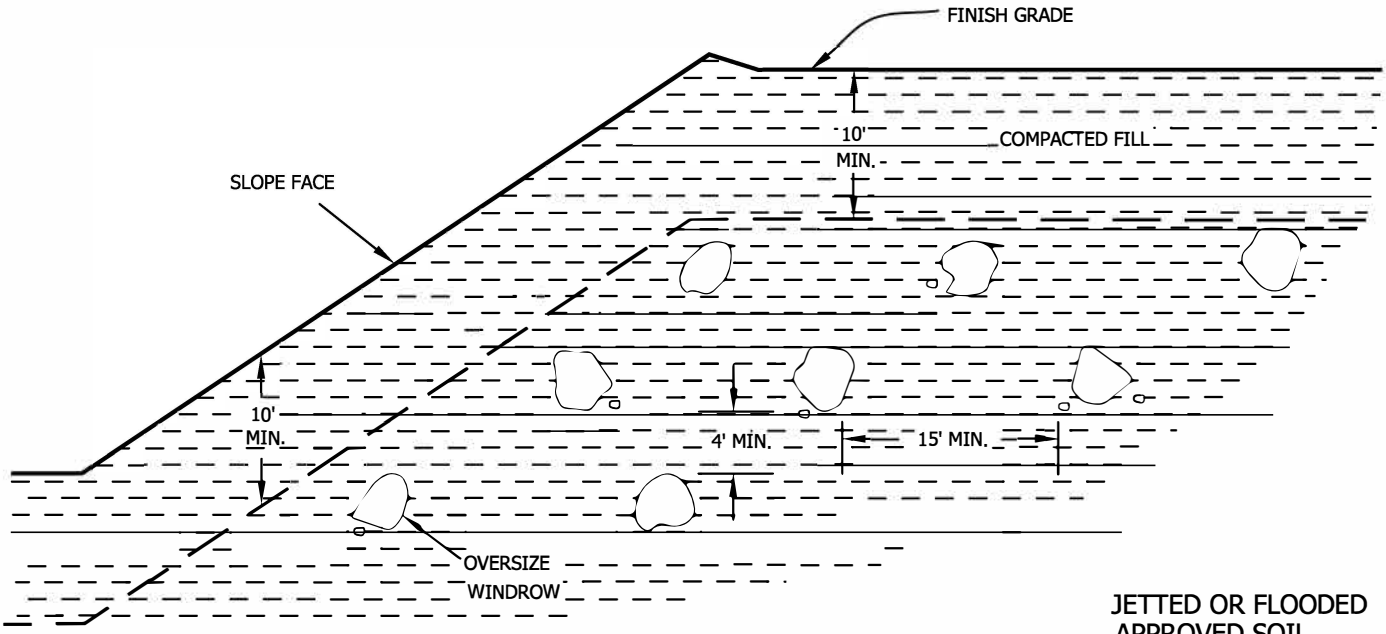


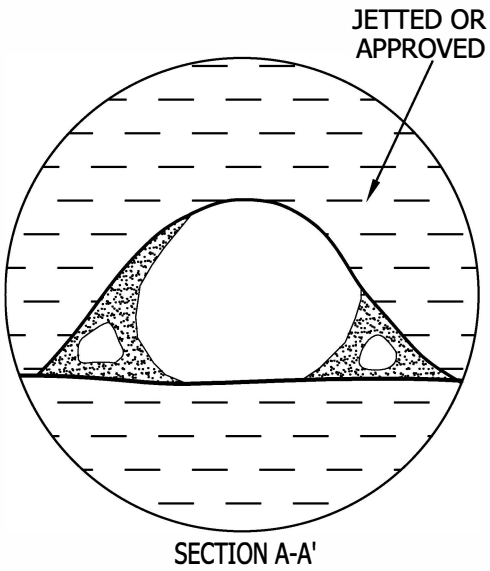
CUT-OVER-FILL SLOPE



BENCHING SHALL BE DONE WHEN SLOPE'S ANGLE IS EQUAL TO OR GREATER THAN 5:1. MINIMUM BENCH HEIGHT SHALL BE 4 FEET AND MINIMUM FILL WIDTH SHALL BE 9 FEET.

KEYING AND BENCHING	GENERAL EARTHWORK AND GRADING SPECIFICATIONS STANDARD DETAILS A	Leighton

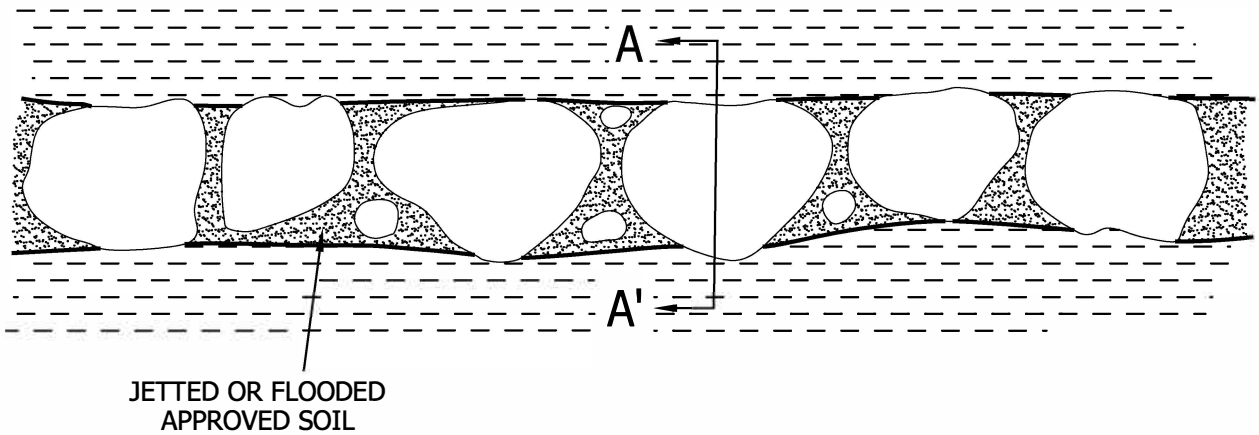




SECTION A-A'

- Oversize rock is larger than 8 inches in largest dimension.
- Backfill with approved soil jetted or flooded in place to fill all the voids.
- Do not bury rock within 10 feet of finish grade.
- Windrow of buried rock shall be parallel to the finished slope face.

PROFILE ALONG WINDROW

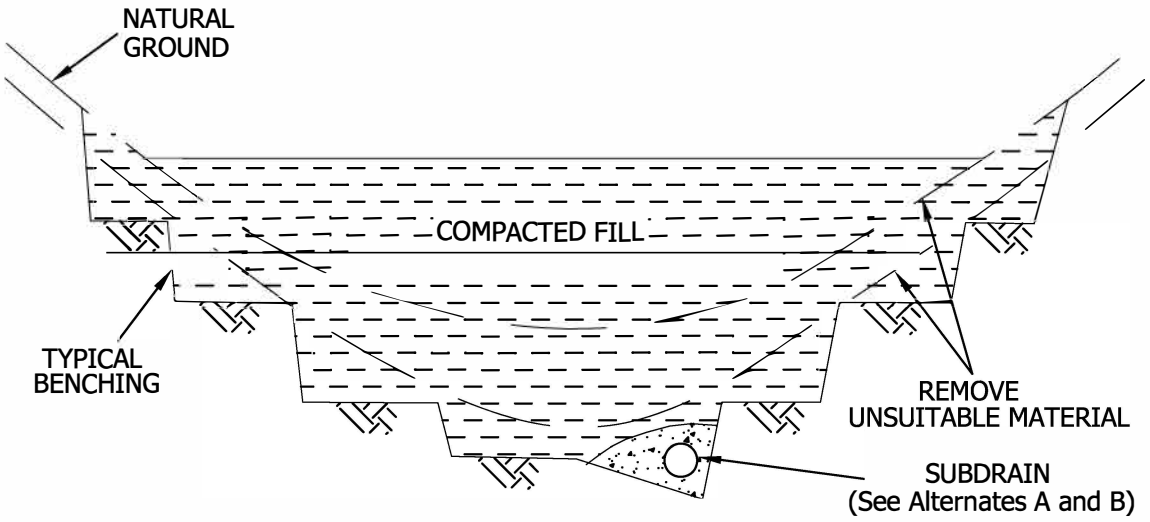


OVERSIZE ROCK DISPOSAL

GENERAL EARTHWORK AND GRADING
SPECIFICATIONS
STANDARD DETAILS B

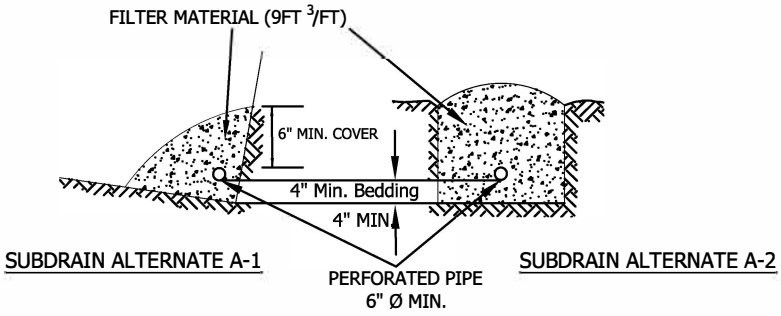
Leighton

P:\Drafting\templates\details\over-rock-disp.dwg (7/00)



SUBDRAIN ALTERNATE A

PERFORATED PIPE SURROUNDED WITH FILTER MATERIAL

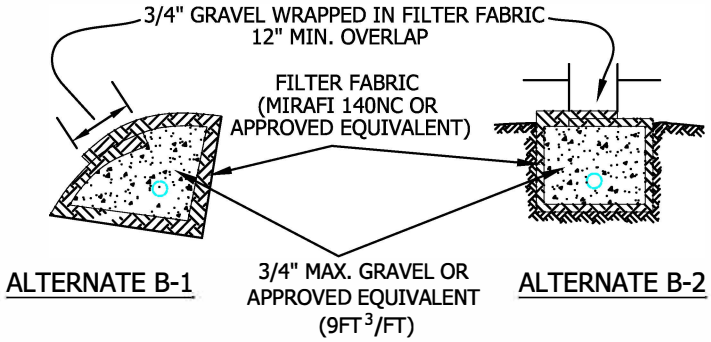


FILTER MATERIAL

FILTER MATERIAL SHALL BE CLASS 2 PERMEABLE MATERIAL PER STATE OF CALIFORNIA STANDARD SPECIFICATION, OR APPROVED ALTERNATE. CLASS 2 GRADING AS FOLLOWS:

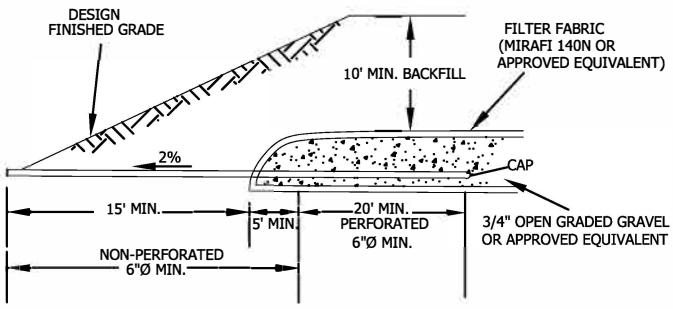
Sieve Size	Percent Passing
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

SUBDRAIN ALTERNATE B



○ PERFORATED PIPE IS OPTIONAL PER GOVERNING AGENCY'S REQUIREMENTS

DETAIL OF CANYON SUBDRAIN TERMINAL

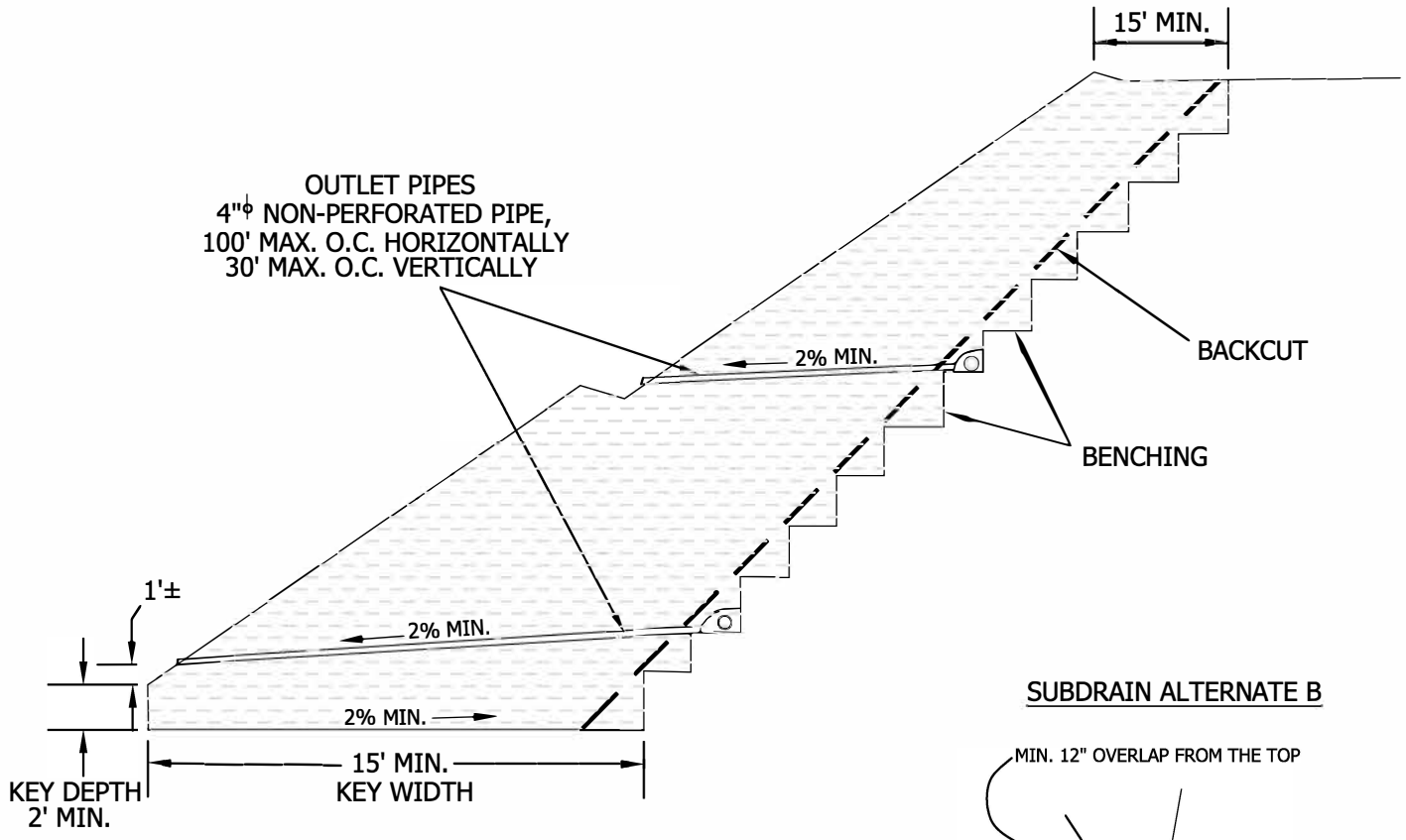


CANYON SUBDRAIN

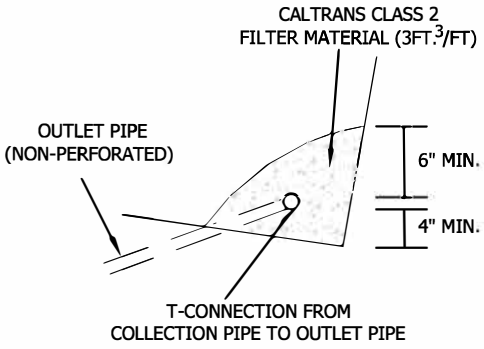
GENERAL EARTHWORK AND GRADING SPECIFICATIONS STANDARD DETAILS C

Leighton

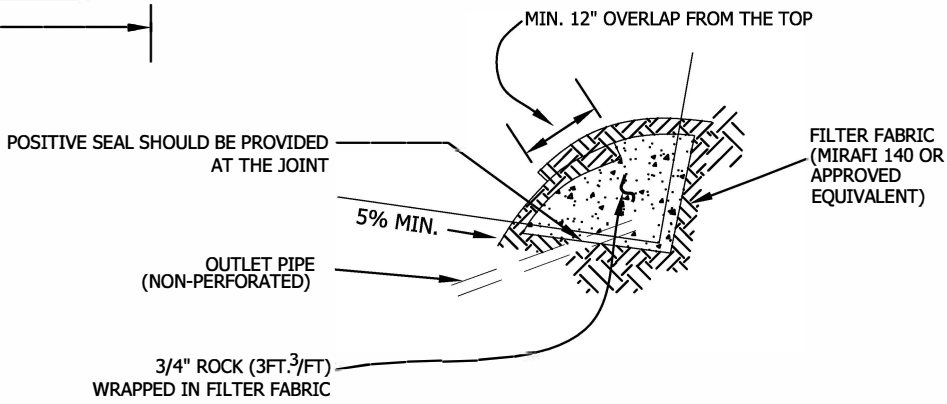
Drafting\templates\details\canyon_drains.dwg (7/00)



SUBDRAIN ALTERNATE A



SUBDRAIN ALTERNATE B

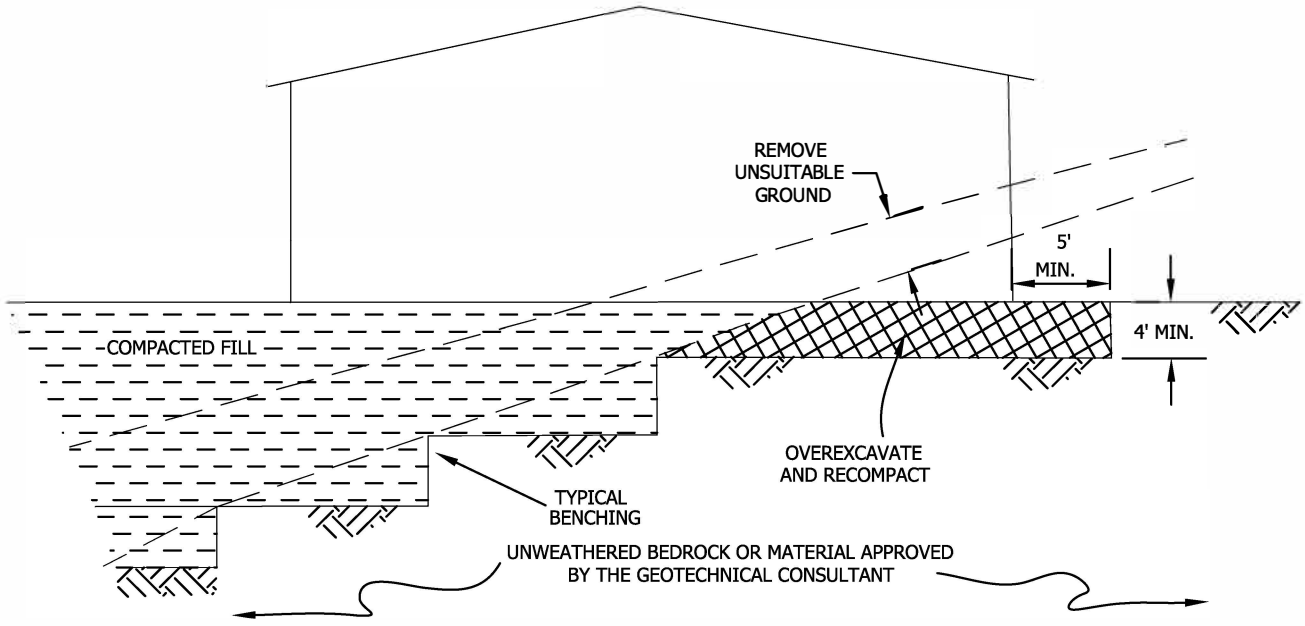


- SUBDRAIN INSTALLATION - Subdrain collector pipe shall be installed with perforations down or, unless otherwise designated by the geotechnical consultant. Outlet pipes shall be non-perforated pipe. The subdrain pipe shall have at least 8 perforations uniformly spaced per foot. Perforation shall be 1/4" to 1/2" if drilled holes are used. All subdrain pipes shall have a gradient at least 2% towards the outlet.
- SUBDRAIN PIPE - Subdrain pipe shall be ASTM D2751, ASTM D1527 (Schedule 40) or SDR 23.5 ABS pipe or ASTM D3034 (Schedule 40) or SDR 23.5 PVC pipe.
- All outlet pipe shall be placed in a trench and, after fill is placed above it, rodded to verify integrity.

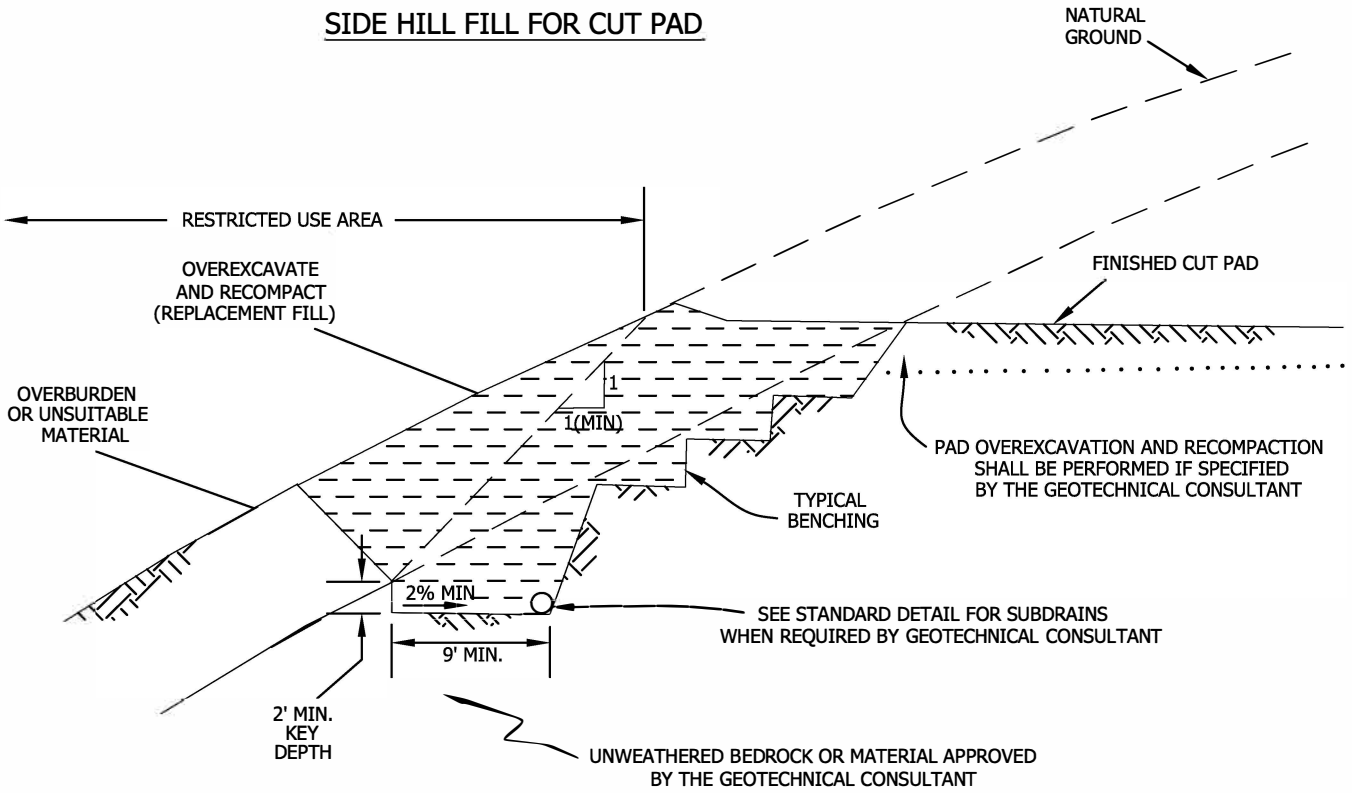
BUTTRESS OR REPLACEMENT FILL SUBDRAINS	GENERAL EARTHWORK AND GRADING SPECIFICATIONS STANDARD DETAILS D	Leighton

P:Drafting\templates\details\buttress_repl_sub.dwg (7/00)

CUT-FILL TRANSITION LOT OVEREXCAVATION



SIDE HILL FILL FOR CUT PAD



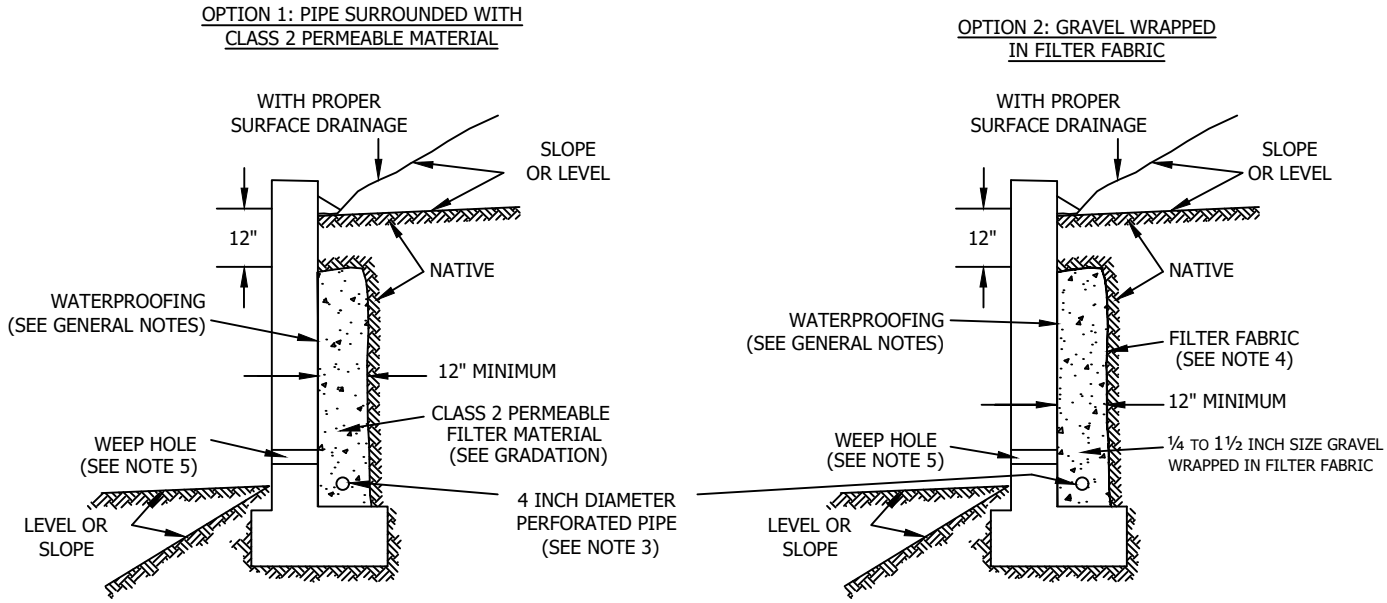
TRANSITION LOT FILLS AND SIDE HILL FILLS

GENERAL EARTHWORK AND GRADING SPECIFICATIONS
STANDARD DETAILS E

Leighton

P:\Drawing\templates\details\transition_fills.dwg (7/00)

SUBDRAIN OPTIONS AND BACKFILL WHEN NATIVE MATERIAL HAS EXPANSION INDEX OF ≤50


OPTION 1: PIPE SURROUNDED WITH CLASS 2 PERMEABLE MATERIAL

OPTION 2: GRAVEL WRAPPED IN FILTER FABRIC

Class 2 Filter Permeable Material Gradation
Per Caltrans Specifications

Sieve Size	Percent Passing
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

GENERAL NOTES:

* Waterproofing should be provided where moisture nuisance problem through the wall is undesirable.
* Water proofing of the walls is not under purview of the geotechnical engineer
* All drains should have a gradient of 1 percent minimum
*Outlet portion of the subdrain should have a 4-inch diameter solid pipe discharged into a suitable disposal area designed by the project engineer. The subdrain pipe should be accessible for maintenance (rodding)
*Other subdrain backfill options are subject to the review by the geotechnical engineer and modification of design parameters.

Notes:
1) Sand should have a sand equivalent of 30 or greater and may be densified by water jetting.
2) 1 Cu. ft. per ft. of 1/4- to 1 1/2-inch size gravel wrapped in filter fabric
3) Pipe type should be ASTM D1527 Acrylonitrile Butadiene Styrene (ABS) SDR35 or ASTM D1785 Polyvinyl Chloride plastic (PVC), Schedule 40, Armco A2000 PVC, or approved equivalent. Pipe should be installed with perforations down. Perforations should be 3/8 inch in diameter placed at the ends of a 120-degree arc in two rows at 3-inch on center (staggered)
4) Filter fabric should be Mirafi 140NC or approved equivalent.
5) Weephole should be 3-inch minimum diameter and provided at 10-foot maximum intervals. If exposure is permitted, weepholes should be located 12 inches above finished grade. If exposure is not permitted such as for a wall adjacent to a sidewalk/curb, a pipe under the sidewalk to be discharged through the curb face or equivalent should be provided. For a basement-type wall, a proper subdrain outlet system should be provided.
6) Retaining wall plans should be reviewed and approved by the geotechnical engineer.
7) Walls over six feet in height are subject to a special review by the geotechnical engineer and modifications to the above requirements.

RETAINING WALL BACKFILL AND SUBDRAIN DETAIL FOR WALLS 6 FEET OR LESS IN HEIGHT

WHEN NATIVE MATERIAL HAS EXPANSION INDEX OF ≤50

Leighton

v:\Drafting\TEMPLATES\STANDARD-FIGURES\ALL-STANDARD-FIGURES.DWG (08-02-21 9:07:35AM) Plotted by: btran

APPENDIX D

GBA - IMPORTANT INFORMATION ABOUT THIS GEOTECHNICAL REPORT

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

Copyright 2019 by Geoprofessional Business Association (GBA). Duplication, reproduction, or copying of this document, in whole or in part, by any means whatsoever, is strictly prohibited, except with GBA's specific written permission. Excerpting, quoting, or otherwise extracting wording from this document is permitted only with the express written permission of GBA, and only for purposes of scholarly research or book review. Only members of GBA may use this document or its wording as a complement to or as an element of a report of any kind. Any other firm, individual, or other entity that so uses this document without being a GBA member could be committing negligent or intentional (fraudulent) misrepresentation.

Appendix 9

Paleontological Survey

PALEONTOLOGICAL ASSESSMENT FOR THE WILDOMAR TRAIL PROJECT

CITY OF WILDOMAR
RIVERSIDE COUNTY, CALIFORNIA

APNs 376-410-015 to -017 and -021

Prepared for:

EPD Solutions
2 Park Plaza, Suite 1120
Irvine, California 92614

Submitted to:

City of Wildomar
23873 Clinton Keith Road, Suite 201
Wildomar, California 92595

Prepared by:

Brian F. Smith and Associates, Inc.
14010 Poway Road, Suite A
Poway, California 92064

November 24, 2021

Paleontological Database Information

Author:	Todd A. Wirths, M.S., Senior Paleontologist, California Professional Geologist No. 7588
Consulting Firm:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064 (858) 679-8218
Report Date:	November 24, 2021
Report Title:	Paleontological Assessment for the Wildomar Trail Project, City of Wildomar, Riverside County, California (APNs 376-410-015 to -017 and -021)
Prepared for:	EPD Solutions 2 Park Plaza, Suite 1120 Irvine, California 92614
Submitted to:	City of Wildomar 23873 Clinton Keith Road, Suite 201 Wildomar, California 92595
Prepared by:	Brian F. Smith and Associates, Inc. 14010 Poway Road, Suite A Poway, California 92064
USGS Quadrangle:	Section 36, Township 6 South, Range 4 West of the *Murrieta, California* (7.5-minute) Quadrangle.
Study Area:	10.056 acres
Key Words:	Paleontological assessment; Pleistocene Pauba Formation; high sensitivity; monitoring recommended from the surface; City of Wildomar.

Table of Contents

Section **Page**

I. INTRODUCTION AND LOCATION....1
II. REGULATORY SETTING....1
State of California....1
City of Wildomar....4
III. GEOLOGY....5
IV. PALEONTOLOGICAL RESOURCES....7
Definition....7
Fossil Locality Search....7
V. PALEONTOLOGICAL SENSITIVITY....7
Overview....7
Professional Standards....8
VI. CONCLUSION AND RECOMMENDATIONS....8
Mitigation Monitoring and Reporting Program (MMRP)....8
VII. CERTIFICATION....11
VIII. REFERENCES CITED....11

Appendices

Appendix A – Qualifications of Key Personnel

List of Figures

Figure **Page**

Figure 1 General Location Map....2
Figure 2 Project Location Map....3
Figure 3 Geologic Map....6

I. INTRODUCTION AND LOCATION

A paleontological resource assessment has been completed for the Wildomar Trail Project, located northwest of the intersection of Clinton Keith Road and George Avenue, just east of Interstate 15, in the city of Wildomar, Riverside County, California (Figures 1 and 2). The project consists of four parcels (Assessor's Parcel Number [APN] 376-410-015 to -017 and -021) totaling 10.056 acres. On the U.S. Geological Survey 7.5-minute, 1:24,000-scale *Murrieta, California* topographic quadrangle map, the project is located in the southeast quarter of Section 36, Township 6 South, Range 4 West, of the San Bernardino Baseline and Meridian. The project proposes to construct an apartment complex.

As the lead agency, the City of Wildomar has required the preparation of a paleontological assessment to evaluate the project's potential to yield paleontological resources. The paleontological assessment of the project included a review of paleontological literature and fossil locality records in the area; a review of the underlying geology; and recommendations to mitigate impacts to potential paleontological resources, if necessary.

II. REGULATORY SETTING

The California Environmental Quality Act (CEQA), which is patterned after the National Environmental Policy Act, is the overriding environmental regulation that sets the requirement for protecting California's paleontological resources. CEQA mandates that governing permitting agencies (lead agencies) set their own guidelines for the protection of nonrenewable paleontological resources under their jurisdiction.

State of California

Under "Guidelines for Implementation of the California Environmental Quality Act," as amended in December 2018 (California Code of Regulations [CCR] Title 14, Division 6, Chapter 3, Sections 15000 et seq.), procedures define the types of activities, persons, and public agencies required to comply with CEQA. Section 15063 of the CCR provides a process by which a lead agency may review a project's potential impact to the environment, whether the impacts are significant, and provide recommendations, if necessary.

In CEQA's Environmental Checklist Form, one of the questions to answer is, "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (Appendix G, Section VII, Part f). This is to ensure compliance with California Public Resources Code Section 5097.5, the law by which protects nonrenewable resources including fossils, which is paraphrased below:

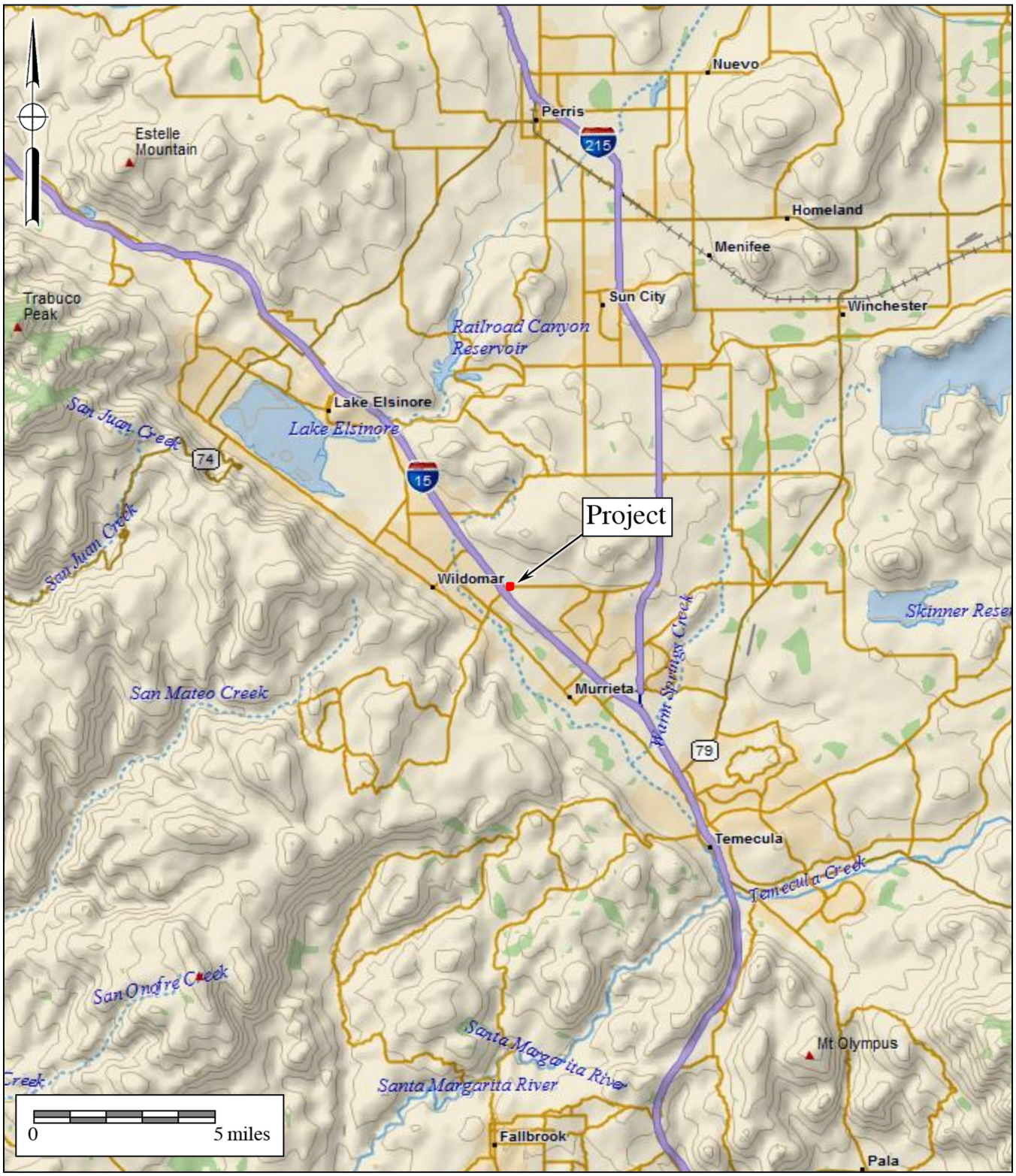


Figure 1

General Location Map

The Wildomar Trail Project

DeLorme (1:250,000)



Figure 2

Project Location Map

The Wildomar Trail Project

USGS *Murrieta* and *Wildomar* Quadrangles (7.5-minute series)

a) A person shall not knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands.
b) As used in this section, "public lands" means lands owned by, or under the jurisdiction of, the state, or any city, county, district, authority, or public corporation, or any agency thereof.
c) A violation of this section is a misdemeanor.

City of Wildomar

In the draft environmental impact report (EIR) of the City of Wildomar Housing Element Update, paleontological resources within the city are addressed (City of Wildomar 2013: 3.4-12). In the draft EIR, impacts to paleontological resources during earth disturbance activities are recognized as potentially significant. To decrease potential impacts to paleontological resources to a level below significant, the following mitigation measure is required for implementation:

MM 3.4.3 Prior to issuance of a grading permit for a project contemplated in the Housing Element, the project applicant shall retain a qualified professional to assess the potential for presence of paleontological resources and the potential for project construction to affect such resources if present. If it is determined, to the satisfaction of the City, that there is low potential for discovery or disturbance of paleontological resources, no further action shall be required.

If potential for discovery is deemed moderate to high, the project applicant shall retain a qualified paleontologist to monitor all initial ground-disturbing activities in native soils or sediments. If the paleontologist, upon observing initial earthwork, determines there is low potential for discovery, no further action shall be required and the paleontologist shall submit a memo to the City confirming findings of low potential.

Should any paleontological resources (i.e., fossils) be uncovered during project construction activities, all work within a 100-foot radius of the discovery site shall be halted or diverted to other areas on the site and the City shall be immediately notified. A qualified

paleontologist shall evaluate the finds and recommend appropriate next steps to ensure that the resource is not substantially adversely impacted, including but not limited to avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. Further ground disturbance shall not resume within a 100-foot radius of the discovery site until an agreement has been reached between the project applicant, a qualified paleontologist, and the City as to the appropriate preservation or mitigation measures to ensure that the resource is not substantially adversely impacted.

Timing/Implementation: *As a condition of project approval, and implemented during grading permit and during ground-disturbing activities*

Enforcement/Monitoring: *City of Wildomar Planning Department*

(City of Wildomar 2013: 3.4-12)

III. GEOLOGY

In the region, the project is situated within the southern portion of Elsinore Valley, which occupies the Elsinore fault zone (Morton and Miller 2006). As shown on Figure 3 (after Morton and Miller 2006), the project area is underlain entirely by the middle Pleistocene-aged sandstone member of the fossiliferous Pauba Formation (area colored orange and labeled "Qps"). The sandstone member of the Pauba Formation consists of "brown, moderately well-indurated, cross-bedded sandstone containing sparse cobble- to boulder-conglomerate beds." Nearby to the north is the Cretaceous-aged monzogranite to granodiorite of the Paloma Valley Ring Complex (plutonic rocks) (pink areas with red crosses labeled "Kpvg"). Underlying the Pauba Formation, and exposed to the south of the project, is the fossiliferous sandstone member of the Pleistocene to Pliocene-aged "unnamed sandstone and conglomerate of the Wildomar area" (area colored brownish gray and labeled "QTws"), described as friable, pale yellowish-green, medium-grained, caliche-rich sandstone (Morton and Miller 2006).

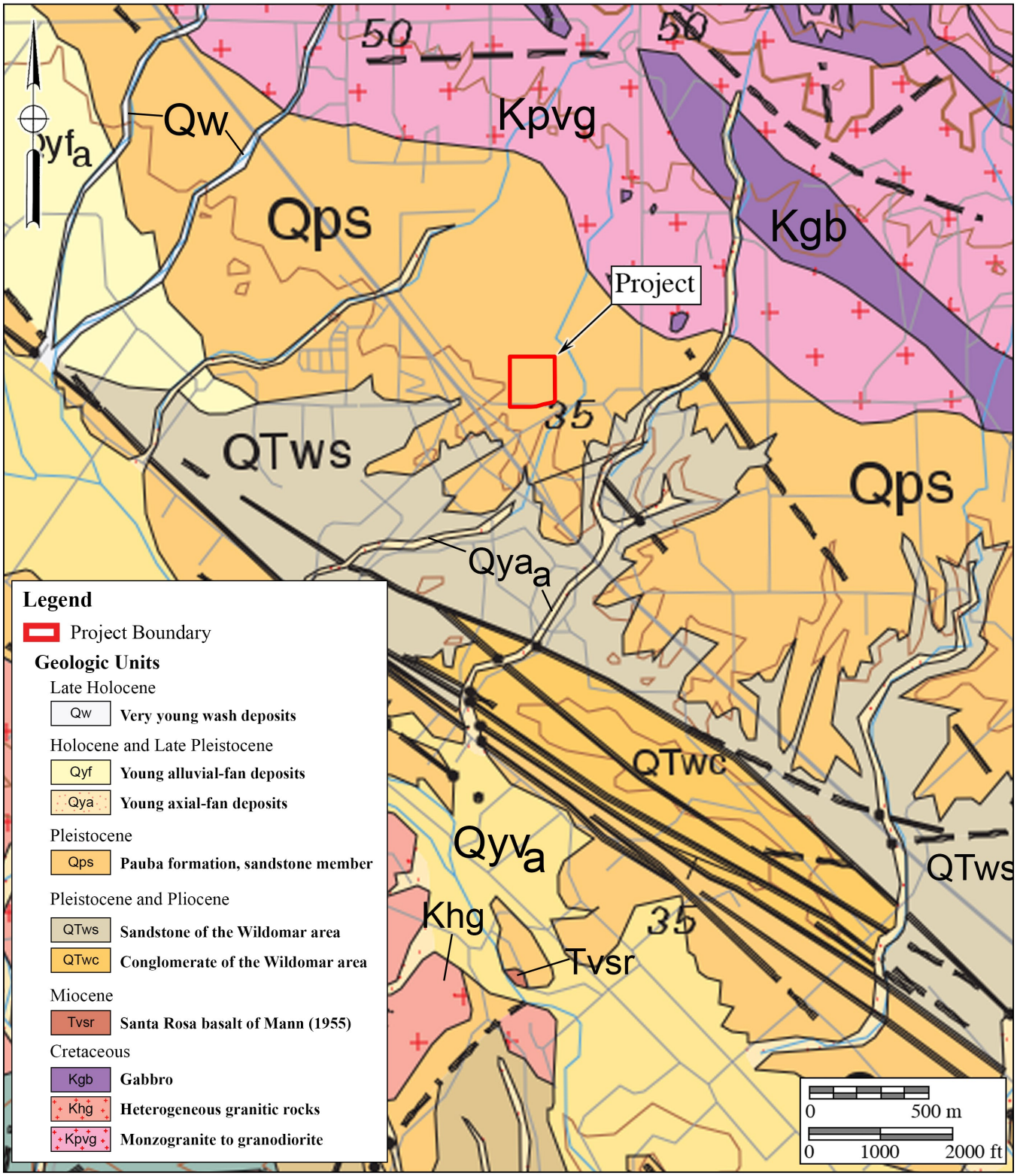


Figure 3

Project Location Map

The Wildomar Trail Project

Geology after Morton and Miller (2006)

IV. PALEONTOLOGICAL RESOURCES

Definition

Paleontological resources are the remains of prehistoric life that have been preserved in geologic strata. These remains are called fossils and include bones, shells, teeth, and plant remains (including their impressions, casts, and molds) in the sedimentary matrix, as well as trace fossils such as footprints and burrows. Fossils are considered older than 5,000 years of age (Society of Vertebrate Paleontology 2010) but may include younger remains (subfossils) when viewed in the context of local extinction of the organism or habitat, for example. Fossils are considered a nonrenewable resource under state and local guidelines (Section II of this report).

Fossil Locality Search

A paleontological literature review and collections and records search was performed for the project with collection and locality records searches using reports obtained for prior nearby projects from the Division of Geological Sciences at the San Bernardino County Museum (SBCM), the Los Angeles County Museum of Natural History (LACM), the Western Science Center (WSC), and with data from published and unpublished paleontological literature. The records search results indicated that the LACM and the WSC have no known fossil localities within the project boundaries or near the project. However, publications based on SBCM localities reveal several fossil localities yielded by the Pauba Formation and the "unnamed sandstone and conglomerate of the Wildomar area" in the region south of the project (Scott and Cox 1993; Pajak et al. 1996).

The closest known fossil localities yielded by the Pauba Formation are located a distance of about a half mile southeast of the project, and include the bones of horses and small vertebrates (SBCM locs. 5.6.325 – 5.6.336). Approximately two miles southeast of the project, fossil bones of horses (*Equus* sp., cf. *E. scotti*), a vertebra and a scapula from a camel (*Camelops* sp.), a three-foot long tusk of a mammoth (*Mammuthus* sp.), the antler of a deer (*Odocoileus* sp.), and other unidentified mammal bones, were recovered during mitigation monitoring of a development project in Murrieta (Stewart et al. 2003).

V. PALEONTOLOGICAL SENSITIVITY

Overview

The degree of paleontological sensitivity of any particular area is based on a number of factors, including the documented presence of fossiliferous resources on a site or in nearby areas, the presence of documented fossils within a particular geologic formation or lithostratigraphic unit, and whether or not the original depositional environment of the sediments is one that might have been conducive to the accumulation of organic remains that might have become fossilized over time. The Pauba Formation, as discussed in Section IV, has a proven paleontological record

(Reynolds and Reynolds 1990; Pajak et al. 1996; Hohman et al. 2020). In the greater Wildomar, Murrieta, and Temecula areas, this formation has produced abundant suites of fossil terrestrial mammals, including various reptiles and amphibians, shrew, various rodents, rabbit, giant ground sloth, saber-tooth cat, pronghorn antelope, tapir, horse, camel, mastodon, mammoth, deer, and llama, and therefore has a high paleontological resource sensitivity.

Professional Standards

The Society of Vertebrate Paleontology has drafted guidelines that include four categories of paleontological sensitivity for geologic units (formations) that might be impacted by a proposed project, as listed below:

- *High Potential:* Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered.
- *Undetermined Potential:* Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment, and that further study is needed to determine the potential of the rock unit.
- *Low Potential:* Rock units that are poorly represented by fossil specimens in institutional collections or based on a general scientific consensus that only preserve fossils in rare circumstances.
- *No Potential:* Rock units that have no potential to contain significant paleontological resources, such as high-grade metamorphic rocks and plutonic igneous rocks.

Using these criteria, based on the age of the Pauba Formation, the fossil record of the formation, and the distribution of nearby fossil localities, the Pauba Formation at the project has a high potential to yield significant paleontological resources.

VI. CONCLUSIONS AND RECOMMENDATIONS

Research has confirmed the existence of potentially fossiliferous Pleistocene Pauba Formation ("Qps") at the project. The occurrence of terrestrial vertebrate fossils from the Pauba Formation is well-documented. The "High" paleontological sensitivity rating assigned to this formation for yielding paleontological resources supports the recommendation that paleontological monitoring be implemented during mass grading and excavation activities in these deposits to mitigate any adverse impacts (loss or destruction) to potential nonrenewable paleontological resources. Full-time monitoring of undisturbed Pauba Formation at the project is warranted starting at the surface.

Mitigation Monitoring and Reporting Program (MMRP)

The following MMRP guidelines, outlined below, are based on the findings stated above.

Paleontological monitoring may be reduced upon the observations and recommendations of the professional-level project paleontologist. The following MMRP, when implemented, would reduce potential impacts of paleontological resources to a level below significant:

1. Monitoring of mass grading and excavation activities in areas identified as likely to contain paleontological resources shall be performed by a qualified paleontologist or paleontological monitor. Monitoring will be conducted full-time in areas of grading or excavation in undisturbed sediments of the Pauba Formation.
2. Paleontological monitors will be equipped to salvage fossils as they are unearthed to avoid construction delays. The monitor must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens in a timely manner. Monitoring may be reduced if the potentially fossiliferous units are not present in the subsurface, or, if present, are determined upon exposure and examination by qualified paleontological personnel to have low potential to contain fossil resources. The monitor shall notify the project paleontologist, who will then notify the concerned parties of the discovery.
3. Paleontological salvage during trenching and boring activities is typically from the generated spoils and does not delay the trenching or drilling activities. Fossils will be collected and placed in cardboard flats or plastic buckets and identified by field number, collector, and date collected. Notes will be taken on the map location and stratigraphy of the site, which is photographed before it is vacated and the fossils are removed to a safe place. On mass grading projects, discovered fossil sites will be protected by flagging to prevent them from being overrun by earthmovers (scrapers) before salvage begins. Fossils are collected in a similar manner, with notes and photographs being taken before removing the fossils. Precise location of the site is determined with the use of handheld GPS units. If the site involves remains from a large terrestrial vertebrate, such as large bone(s) or a mammoth tusk, that is/are too large to be easily removed by a single monitor, a fossil recovery crew shall excavate around the find, encase the find within a plaster and burlap jacket, and remove it after the plaster is set. For large fossils, use of the contractor's construction equipment may be solicited to help remove the jacket to a safe location.
4. Isolated fossils will be collected by hand, wrapped in paper, and placed in temporary collecting flats or five-gallon buckets. Notes will be taken on the map location and stratigraphy of the site, which is photographed before it is vacated and the fossils are removed to a safe place.
5. Particularly small invertebrate fossils typically represent multiple specimens of a limited number of organisms, and a scientifically suitable sample can be obtained from one to several five-gallon buckets of fossiliferous sediment. If it is possible to dry screen the sediment in the field, a concentrated sample may consist of one or two

buckets of material. For vertebrate fossils, the test is usually the observed presence of small pieces of bones within the sediments. If present, as many as 20 to 40 five-gallon buckets of sediment can be collected and returned to a separate facility to wet-screen the sediment.

6. In accordance with the "Microfossil Salvage" section of the Society of Vertebrate Paleontology guidelines (2010:7), bulk sampling and screening of fine-grained sedimentary deposits (including carbonate-rich paleosols) must be performed if the deposits are identified to possess indications of producing fossil "microvertebrates" to test the feasibility of the deposit to yield fossil bones and teeth.
7. In the laboratory, individual fossils are cleaned of extraneous matrix, any breaks are repaired, and the specimen, if needed, is stabilized by soaking in an archivally approved acrylic hardener (*e.g.*, a solution of acetone and Paraloid B-72).
8. Recovered specimens will be prepared to a point of identification and permanent preservation (not display), including screen-washing sediments to recover small invertebrates and vertebrates. Preparation of individual vertebrate fossils is often more time-consuming than for accumulations of invertebrate fossils.
9. Recovered specimens shall be identified and curated of specimens into a professional, accredited public museum repository with a commitment to archival conservation and permanent retrievable storage (*e.g.*, the Western Science Center). The paleontological program should include a written repository agreement prior to the initiation of mitigation activities. Prior to curation, the lead agency (*e.g.*, the City of Wildomar) will be consulted on the repository/museum to receive the fossil material.
10. A final report of findings and significance will be prepared, including lists of all fossils recovered and necessary maps and graphics to accurately record their original location(s). The report, when submitted to, and accepted by, the appropriate lead agency, will signify satisfactory completion of the project program to mitigate impacts to any potential nonrenewable paleontological resources (*i.e.*, fossils) that might have been lost or otherwise adversely affected without such a program in place.

VII. CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this paleontological report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief, and have been compiled in accordance with CEQA criteria.

November 24, 2021

Todd A. Wirths
Senior Paleontologist
California Professional Geologist No. 7588

Date

PROFESSIONAL GEOLOGIST
TODD A. WIRTHS
No. 7588
STATE OF CALIFORNIA

VIII. REFERENCES

City of Wildomar. 2013. City of Wildomar housing element update 2013 - 2021 draft environmental impact report. SCH No. 2013051001. https://p1cdn4static.civiclive.com/UserFiles/Servers/Server_9894739/File/Government/Departments/Planning/Environmental%20Documents/Adopted%20MNDs%20and%20EIRs/GPA%2013-02%20-%20Wildomar%20Housing%20Element%20Project%20DEIR%20-%20Adopted%2012-11-13.pdf.

Hohman, C.J., Scott, E., and Dooley, A.C. 2020. Shifting faunas and changing climate: new remains of middle to late Pleistocene *Equus* from southwestern Riverside County, California: Abstract, *in* The Society of Vertebrate Paleontology 80th Annual Meeting · Virtual 2020, Conference Program.

Jefferson, G.T. 1991. A catalogue of late Quaternary vertebrates from California: Part two, mammals. Natural History Museum of Los Angeles County, Technical Reports, no. 7: i-v + 1-129.

Morton, D.M. and Miller, F.K. 2006. Geologic map of the San Bernardino and Santa Ana 30' x 60' quadrangles, California: U.S. Geological Survey Open-File Report 06-1217, scale 1:100,000.

Pajak, A.F., Scott, E., and Bell, C.J. 1996. A review of the biostratigraphy of Pliocene and Pleistocene sediments in the Elsinore Fault zone, Riverside County, California. PaleoBios, 17:2-4, pp. 28-49.

Reynolds, R.E., and Reynolds, R.L. 1990. A new, late Blancan faunal assemblage from Murrieta, Riverside County, California, *in*, Reynolds, R., ed., Abstracts of Papers presented at the Mojave Desert Quaternary Research Center, Fourth Annual Symposium,

San Bernardino County Museum, Redlands, California.

Reynolds, R.E., Fay, L.P., and Reynolds, R.L. 1990. California Oaks Road: An early-late Irvingtonian Land Mammal Age fauna from Murrieta, Riverside County, California, *in*, Reynolds, R., ed., Abstracts of Papers presented at the Mojave Desert Quaternary Research Center, Fourth Annual Symposium, San Bernardino County Museum, Redlands, California.

Scott, E., and Cox, S.M. 1993. *Arctodus simus* (Cope, 1879) from Riverside County, California. PaleoBios, 15:2, pp. 27-36.

Society of Vertebrate Paleontology. 2010. Standard procedures for the assessment and mitigation of adverse impacts to paleontological resources; by the SVP Impact Mitigation Guidelines Revision Committee: http://vertpaleo.org/Membership/Member-Ethics/SVP_Impact_ Mitigation_Guidelines.aspx.

Stewart, J.D., Kennedy, G.L., and Shiller, G.I. 2003. Paleontological monitoring report, Murrieta 55 Project, city of Murrieta, Riverside County, California (Tentative Tract Map No. 29923[00-160]). Unpublished consulting report prepared for Keystone Communities, San Diego, California, by Brain F. Smith and Associates, Inc., Poway, California.

APPENDIX A

Qualifications of Key Personnel

Todd A. Wirths, MS, PG No. 7588

Senior Paleontologist

Brian F. Smith and Associates, Inc.
14010 Poway Road • Suite A •
Phone: (858) 679-8218 • Fax: (858) 679-9896 • E-Mail: twirths@bfsa-ca.com

Education

Master of Science, Geological Sciences, San Diego State University, California **1995**

Bachelor of Arts, Earth Sciences, University of California, Santa Cruz **1992**

Professional Certifications

California Professional Geologist #7588, 2003
Riverside County Approved Paleontologist
San Diego County Qualified Paleontologist
Orange County Certified Paleontologist
OSHA HAZWOPER 40-hour trained; current 8-hour annual refresher

Professional Memberships

Board member, San Diego Geological Society
San Diego Association of Geologists; past President (2012) and Vice President (2011)
South Coast Geological Society
Southern California Paleontological Society

Experience

Mr. Wirths has more than a dozen years of professional experience as a senior-level paleontologist throughout southern California. He is also a certified California Professional Geologist. At BFSA, Mr. Wirths conducts on-site paleontological monitoring, trains and supervises junior staff, and performs all research and reporting duties for locations throughout Los Angeles, Ventura, San Bernardino, Riverside, Orange, San Diego, and Imperial Counties. Mr. Wirths was formerly a senior project manager conducting environmental investigations and remediation projects for petroleum hydrocarbon-impacted sites across southern California.

Selected Recent Reports

2019 *Paleontological Assessment for the 10575 Foothill Boulevard Project, City of Rancho Cucamonga, San Bernardino County, California*. Prepared for T&B Planning, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2019 *Paleontological Assessment for the MorningStar Marguerite Project, Mission Viejo, Orange County, California.* Prepared for T&B Planning. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2019 *Paleontological Monitoring Report for the Nimitz Crossing Project, City of San Diego.* Prepared for Voltaire 24, LP. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2019 *Paleontological Resource Impact Mitigation Program (PRIMP) for the Jack Rabbit Trail Logistics Center Project, City of Beaumont, Riverside County, California.* Prepared for JRT BP 1, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Monitoring Report for the Oceanside Beachfront Resort Project, Oceanside, San California.* Prepared for S.D. Malkin Properties. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Resource Impact Mitigation Program for the Nakase Project, Lake Forest, Orange County, San California.* Prepared for Glenn Lukos Associates, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Resource Impact Mitigation Program for the Sunset Crossroads Project, Banning, Riverside County*. Prepared for NP Banning Industrial, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Assessment for the Ortega Plaza Project, Lake Elsinore, Riverside County*. Prepared for Empire Design Group. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Resource Record Search Update for the Green River Ranch III Project, Green River Ranch Specific Plan SP00-001, City of Corona, California*. Prepared for Western Realco. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Assessment for the Cypress/Slover Industrial Center Project, City of Fontana, San Bernardino County, California*. Prepared for T&B Planning, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2020 *Paleontological Monitoring Report for the Imperial Landfill Expansion Project (Phase VI, Segment C-2), Imperial County, California*. Prepared for Republic Services, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Assessment for the Manitou Court Logistics Center Project, City of Jurupa Valley, Riverside County, California*. Prepared for Link Industrial. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Resource Impact Mitigation Program for the Del Oro (Tract 36852) Project, Menifee, Riverside County*. Prepared for D.R. Horton. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Assessment for the Alessandro Corporate Center Project (Planning Case PR-2020-000519), City of Riverside, Riverside County, California*. Prepared for OZI Alessandro, LLC. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

2021 *Paleontological Monitoring Report for the Boardwalk Project, La Jolla, City of San Diego*. Prepared for Project Management Advisors, Inc. Report on file at Brian F. Smith and Associates, Inc., Poway, California.

Appendix 10

Wildomar Crossroads Greenhouse Gas Emissions Analysis

Wildomar Crossroads

GREENHOUSE GAS ANALYSIS

CITY OF WILDOMAR

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Alyssa Barnett
abarnett@urbanxroads.com

APRIL 13, 2022

TABLE OF CONTENTS

TABLE OF CONTENTS ..... **I**
APPENDICES II
LIST OF EXHIBITS ..... **II**
LIST OF TABLES ..... **II**
LIST OF ABBREVIATED TERMS ..... **III**
EXECUTIVE SUMMARY **8**
ES.1 Summary of Findings 8
ES.2 Project Requirements 8
1 INTRODUCTION **11**
1.1 Site Location 11
1.2 Project Description 11
2 CLIMATE CHANGE SETTING **15**
2.1 Introduction to Global Climate Change (GCC) 15
2.2 Global Climate Change Defined 15
2.3 GHGs 15
2.4 Global Warming Potential 22
2.5 GHG Emissions Inventories 22
2.6 Effects of Climate Change in California 23
2.7 Regulatory Setting 25
3 PROJECT GHG IMPACT **49**
3.1 Introduction 49
3.2 Standards of Significance 49
3.3 Models Employed To Analyze GHGs 50
3.4 Life-Cycle Analysis Not Required 50
3.5 Construction Emissions 51
3.6 Operational Emissions 53
3.7 GHG Emissions Findings and Recommendations 55
4 REFERENCES **63**
5 CERTIFICATIONS **67**

APPENDICES

APPENDIX 3.1: CALEEMOD CONSTRUCTION EMISSIONS MODEL OUTPUTS
APPENDIX 3.2: CALEEMOD OPERATIONAL EMISSIONS MODEL OUTPUTS

LIST OF EXHIBITS

EXHIBIT 1-A: LOCATION MAP 12
EXHIBIT 1-B: SITE PLAN 13
EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990) 21

LIST OF TABLES

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS 8
TABLE 2-1: GHGS 16
TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS 22
TABLE 2-3: TOP GHG PRODUCING COUNTRIES AND THE EUROPEAN UNION 23
TABLE 3-1: CONSTRUCTION DURATION 51
TABLE 3-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS 52
TABLE 3-3: AMORTIZED ANNUAL CONSTRUCTION EMISSIONS 53
TABLE 3-4: PROJECT SCENARIO GHG EMISSIONS 55
TABLE 3-5: 2017 SCOPING PLAN CONSISTENCY SUMMARY 56

LIST OF ABBREVIATED TERMS

%	Percent
°C	Degrees Celsius
°F	Degrees Fahrenheit
(1)	Reference
2017 Scoping Plan	Final 2017 Scoping Plan Update
AB	Assembly Bill
AB 32	Global Warming Solutions Act of 2006
AB 1493	Pavley Fuel Efficiency Standards
AB 1881	California Water Conservation Landscaping Act of 2006
Annex I	Industrialized Nations
APA	Administrative Procedure Act
AQIA	*Wildomar Crossroads Air Quality Impact Analysis*
BAU	Business-as-Usual
C-P-S	Scenic Highway Commercial
C_2F_6	Hexafluoroethane
C_2H_6	Ethane
CAA	Federal Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGAPS	California LBNL GHG Analysis of Policies Spreadsheet
CALGreen	California Green Building Standards Code
CalSTA	California State Transportation Agency
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resource Board
CBSC	California Building Standards Commission
CEC	California Energy Commission
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CEQA Guidelines	*2019 CEQA Statute and Guidelines*
CDFA	California Department of Food and Agriculture
CF_4	Tetrafluoromethane
CFC	Chlorofluorocarbons
CFC-113	Trichlorotrifluoroethane
CH_4	Methane

City	City of Wildomar
CNRA	California Natural Resources Agency
CNRA 2009	*2009 California Climate Adaptation Strategy*
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
Convention	United Nation's Framework Convention on Climate Change
COP	Conference of the Parties
CPUC	California Public Utilities Commission
CTC	California Transportation Commission
DOF	Department of Finance
DWR	Department of Water Resources
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
EV	Electric Vehicle
FED	Functional Equivalent Document
GCC	Global Climate Change
Gg	Gigagram
GHGA	Greenhouse Gas Analysis
GO-Biz	Governor's Office of Business and Economic Development
GWP	Global Warming Potential
H_2O	Water
HFC	Hydrofluorocarbons
HDT	Heavy-Duty Trucks
HFC-23	Fluoroform
HFC-134a	1,1,1,2-tetrafluoroethane
HFC-152a	1,1-difluoroethane
IBANK	California Infrastructure and Economic Development Bank
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resource Planning
ISO	Independent System Operator
ITE	Institute of Transportation Engineers
kWh	Kilowatt Hours
lbs	Pounds
LBNL	Lawrence Berkeley National Laboratory
LCA	Life-Cycle Analysis
LCD	Liquid Crystal Display
LCFS	Low Carbon Fuel Standard or Executive Order S-01-07
LEV III	Low-Emission Vehicle

LULUCF	Land-Use, Land-Use Change and Forestry
MDT	Medium-Duty Trucks
MMR	Mandatory Reporting Rule
$MMTCO_2e$	Million Metric Ton of Carbon Dioxide Equivalent
mpg	Miles Per Gallon
MPOs	Metropolitan Planning Organizations
$MMTCO_2e/yr$	Million Metric Ton of Carbon Dioxide Equivalent Per Year
MT/yr	Metric Tons Per Year
$MTCO_2e$	Metric Ton of Carbon Dioxide Equivalent
$MTCO_2e/yr$	Metric Ton of Carbon Dioxide Equivalent Per Year
MUPA	Mixed-Use Planning Area
MW	Megawatts
MWh	Megawatts Per Hour
MWELO	California Department of Water Resources' Model Water Efficient
N_2O	Nitrous Oxide
NDC	Nationally Determined Contributions
NF_3	Nitrogen Trifluoride
NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Safety and Health
NO_X	Nitrogen Oxides
Non-Annex I	Developing Nations
OAL	Office of Administrative Law
OPR	Office of Planning and Research
PFC	Perfluorocarbons
ppb	Parts Per Billion
ppm	Parts Per Million
ppt	Parts Per Trillion
Project	Wildomar Crossroads
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel-Efficient Vehicles Rule
SB	Senate Bill
SB 32	California Global Warming Solutions Act of 2006
SB 375	Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies
SB 1078	Renewable Portfolio Standards
SB 1368	Statewide Retail Provider Emissions Performance Standards

SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
Scoping Plan	California Air Resources Board Climate Change Scoping Plan
SCS	Sustainable Communities Strategy
sf	Square Feet
SF_6	Sulfur Hexaflouride
SGC	Strategic Growth Council
SLPS	Short-Lived Climate Pollutant Strategy
SOREs	Small Off-Road Engines
SP	Service Population
Title 20	Appliance Energy Efficiency Standards
Title 24	California Building Code
U.N.	United Nations
U.S.	United States
UNFCCC	United Nations' Framework Convention on Climate Change
UTR	Utility Tractors
VMT	Vehicle Miles Traveled
WCI	Western Climate Initiative
WRCOG	Western Riverside Council of Governments
WRI	World Resources Institute
ZE/NZE	Zero and Near-Zero Emissions
ZEV	Zero-Emissions Vehicles

This page intentionally left blank

EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Wildomar Crossroads Greenhouse Gas Analysis* (GHGA) is summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines* (*CEQA Guidelines* (1). Table ES-1 shows the findings of significance for potential greenhouse gas (GHG) impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
GHG Impact #1: Would the Project generate GHG emissions either directly or indirectly, that may have a significant impact on the environment?	3.7	*Less Than Significant*	*n/a*
GHG Impact #2: Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	3.7	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by the State of California and the South Coast Air Quality Management District (SCAQMD) aimed at the reduction of air pollutant emissions. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of GHG emissions include:

- Global Warming Solutions Act of 2006 (Assembly Bill (AB) 32) (2).
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (Senate Bill (SB) 375) (3).
- Pavley Fuel Efficiency Standards (AB 1493). Establishes fuel efficiency ratings for new vehicles (4).
- California Building Code (Title 24 California Code of Regulations (CCR)) and CALGreen standards. Establishes energy efficiency requirements for new construction (5).
- Appliance Energy Efficiency Standards (Title 20 CCR). Establishes energy efficiency requirements for appliances (6).
- Low Carbon Fuel Standard (LCFS). Requires carbon content of fuel sold in California to be 10 percent (%) less by 2020 (7).
- California Water Conservation in Landscaping Act of 2006 (AB 1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or

equivalent by January 1, 2010, to ensure efficient landscapes in new development and reduced water waste in existing landscapes (8).

- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions (9).
- Renewable Portfolio Standards (SB 1078 – also referred to as RPS). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20% by 2010 and 33% by 2020 (10).
- California Global Warming Solutions Act of 2006 (SB 32). Requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15 (11).

Promulgated regulations that will affect the Project's emissions are accounted for in the Project's GHG calculations provided in this report. In particular, AB 1493, LCFS, and RPS, and therefore are accounted for in the Project's emission calculations.

This page intentionally left blank

1 INTRODUCTION

This report presents the results of the GHGA prepared by Urban Crossroads, Inc., for the proposed Wildomar Crossroads (Project). The purpose of this GHGA is to evaluate Project-related construction and operational emissions and determine the level of GHG impacts as a result of constructing and operating the Project.

1.1 SITE LOCATION

The proposed Project is located on the northwest corner of Clinton Keith Road and Wildomar Trail, as shown on Exhibit 1-A. The project site has a General Plan Land Use designation of Mixed-Use Planning Area (MUPA) and a zoning designation of Scenic Highway Commercial (C-P-S) with a Mixed-Use Overlay Zone. The area surrounding the Project Site consists of existing single-family residential homes to the north and west, commercial land use and the Oak Springs Ranch Apartment community located to the south, and commercial land uses east of the Project site.

1.2 PROJECT DESCRIPTION

The proposed Project is planned to consist of the following land uses as shown on Exhibit 1-B

- 23,104 square feet (sf) supermarket land use
- 5,087 sf retail/restaurants
- 2,750 sf of fast-food restaurant with drive-through window
- 1,133 sf of coffee/donut shop with drive-through window
- 3,348 sf of high-turnover (sit-down) restaurant
- 150 multi-family residential units in 3-story apartment buildings

It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2024.

EXHIBIT 1-A: LOCATION MAP

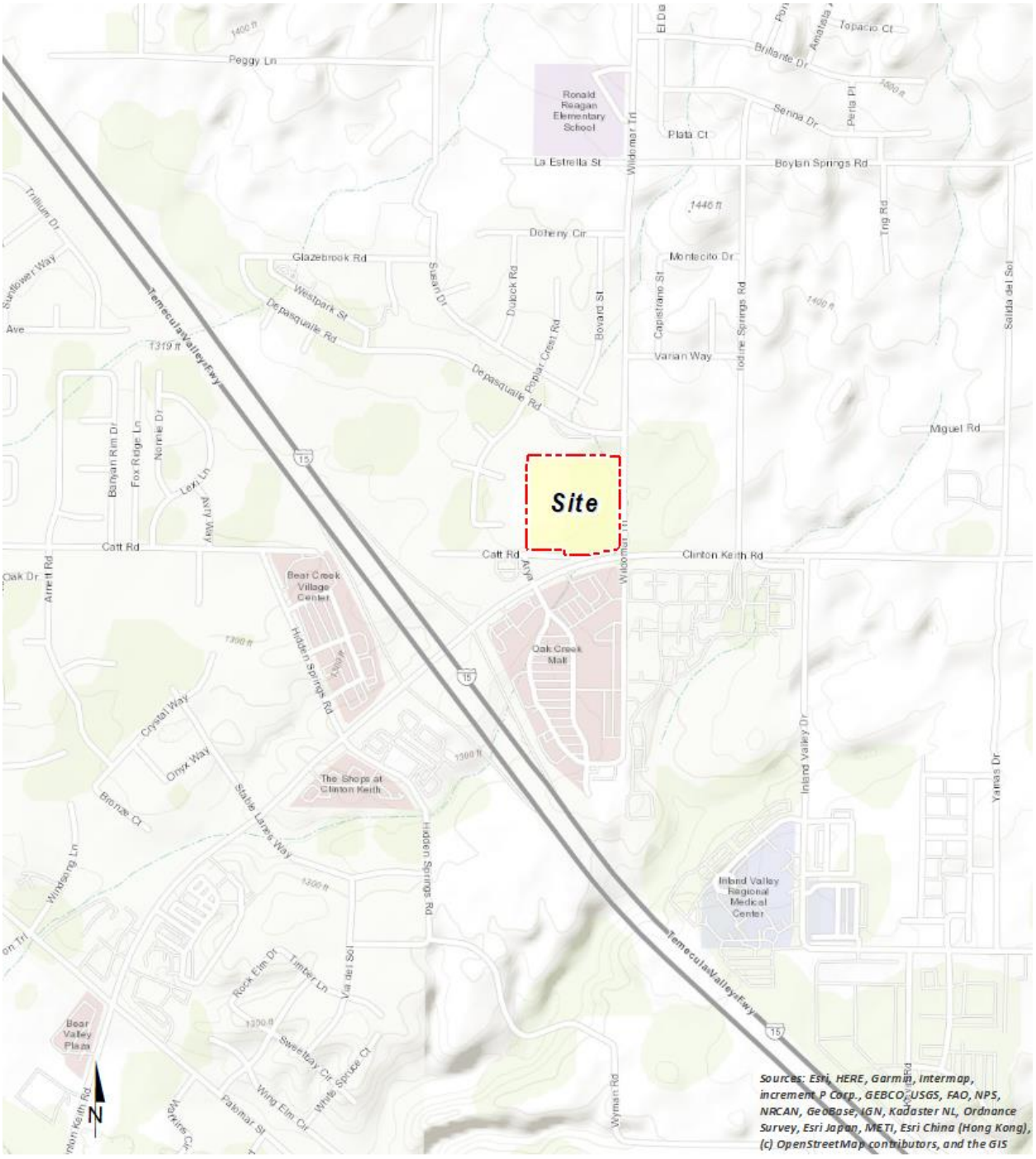
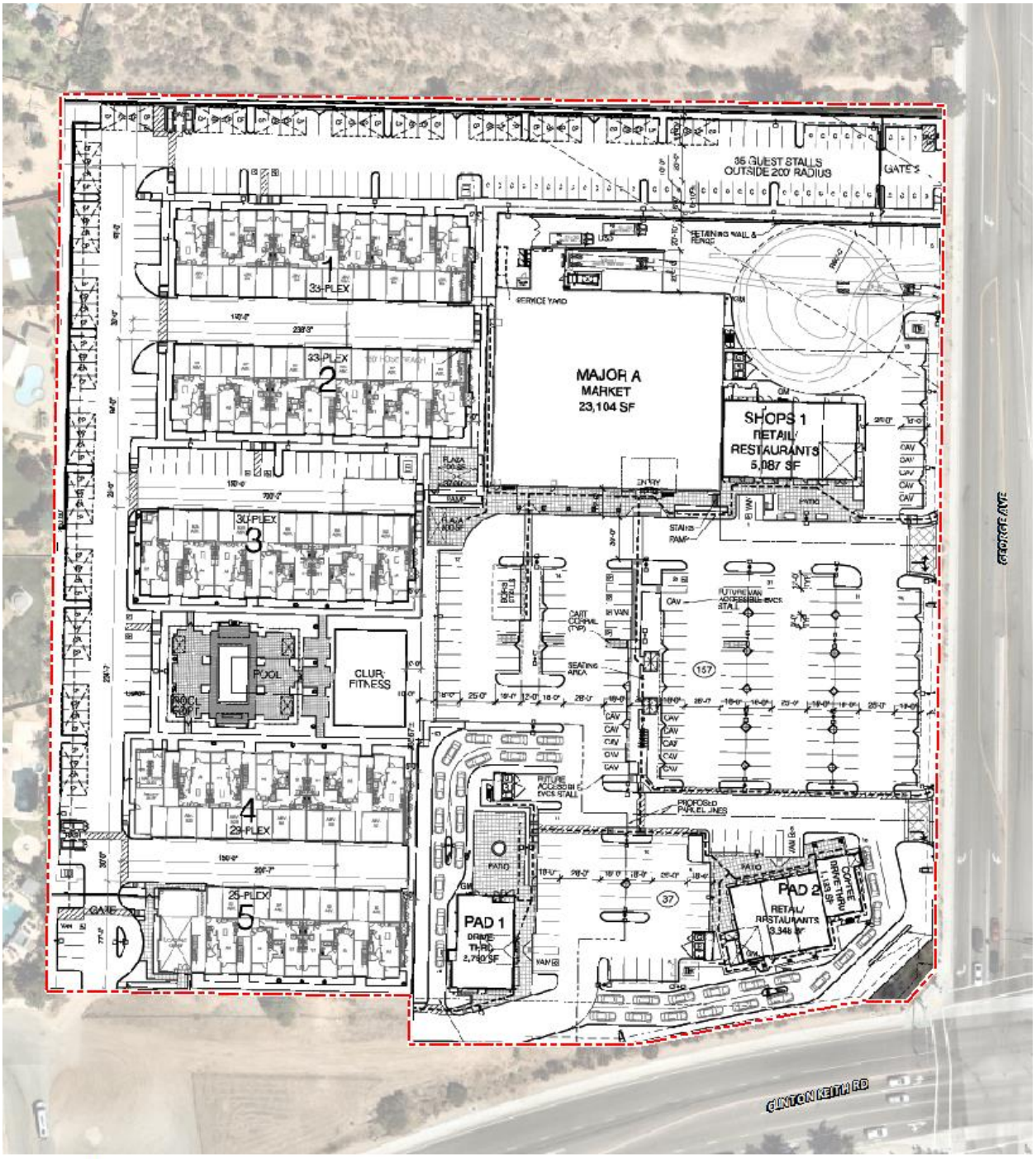


EXHIBIT 1-B: SITE PLAN



This page intentionally left blank

2 CLIMATE CHANGE SETTING

2.1 INTRODUCTION TO GLOBAL CLIMATE CHANGE (GCC)

GCC is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this GHGA cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

2.2 GLOBAL CLIMATE CHANGE DEFINED

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO_2, N_2O, CH_4, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radioactive heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

2.3 GHGS

2.3.1 GHGS AND HEALTH EFFECTS

GHGs trap heat in the atmosphere, creating a GHG effect that results in global warming and climate change. Many gases demonstrate these properties and as discussed in Table 2-1. For the purposes of this analysis, emissions of CO_2, CH_4, and N_2O were evaluated (see Table 3-1 later in this report) because these gases are the primary contributors to GCC from development projects.

Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

TABLE 2-1: GHGS

GHGs	Description	Sources	Health Effects
Water	Water is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. Climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop would continue is	The main source of water vapor is evaporation from the oceans (approximately 85%). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.	There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

GHGs	Description	Sources	Health Effects
	unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it would eventually condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the earth's surface and heat it up) (12).		
CO_2	CO_2 is an odorless and colorless GHG. Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30%. Left unchecked, the concentration of CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources (13).	CO_2 is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. CO_2 is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks (14).	Outdoor levels of CO_2 are not high enough to result in negative health effects. According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of CO_2 can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of CO_2 in the earth's atmosphere are estimated to be approximately 370 ppm, the actual reference exposure level (level at which adverse health effects typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15 minute period (15).

GHGs	Description	Sources	Health Effects
CH_4	CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than CO_2 and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs.	CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropocentric sources include fossil-fuel combustion and biomass burning (16).	CH_4 is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to elevated levels of CH_4 can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
N_2O	N_2O, also known as laughing gas, is a colorless GHG. Concentrations of N_2O also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).	N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream	N_2O can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage) (17).

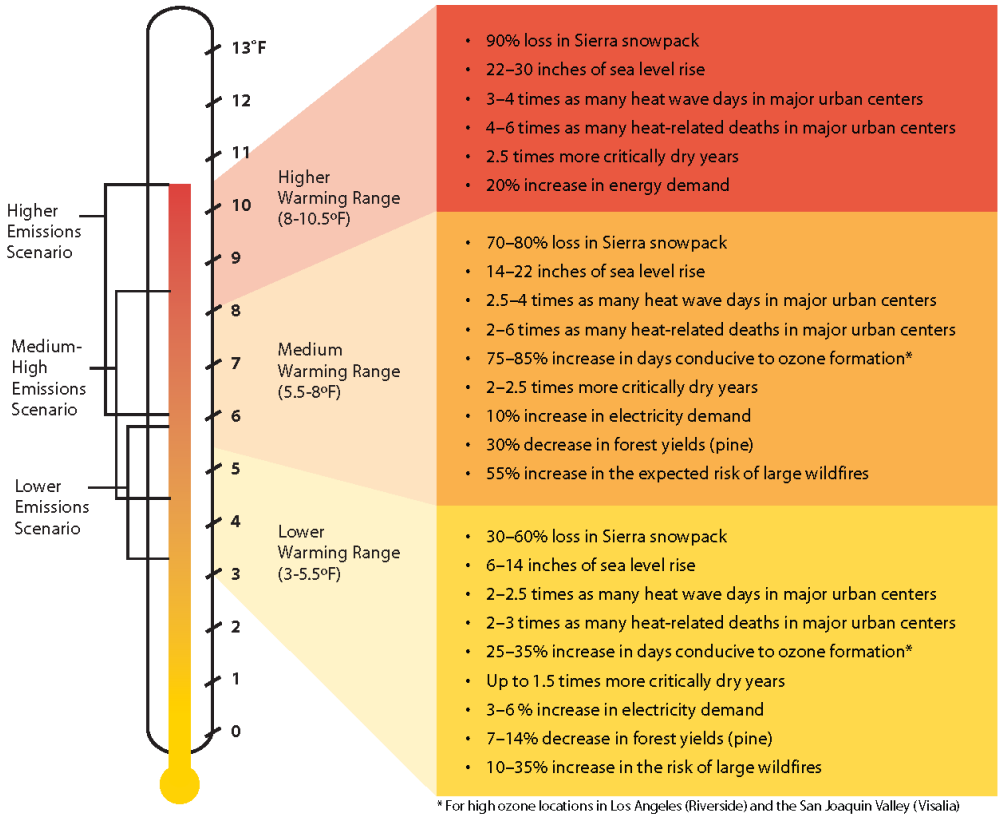
GHGs	Description	Sources	Health Effects
		bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. N_2O can be transported into the stratosphere, be deposited on the earth's surface, and be converted to other compounds by chemical reaction (17).	
Chlorofluorocarbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the earth's surface).	CFCs have no natural source but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs would remain in the atmosphere for over 100 years (18).	In confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

GHGs	Description	Sources	Health Effects
HFCs	HFCs are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential (GWP). The HFCs with the largest measured atmospheric abundances are (in order), Fluoroform (HFC-23), 1,1,1,2-tetrafluoroethane (HFC-134a), and 1,1-difluoroethane (HFC-152a). Prior to 1990, the only significant emissions were of HFC-23. HCF-134a emissions are increasing due to its use as a refrigerant.	HFCs are manmade for applications such as automobile air conditioners and refrigerants.	No health effects are known to result from exposure to HFCs.
PFCs	PFCs have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above earth's surface, are able to destroy the compounds. Because of this, PFCs have exceptionally long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The EPA estimates that concentrations of CF_4 in the atmosphere are over 70 parts per trillion (ppt).	The two main sources of PFCs are primary aluminum production and semiconductor manufacture.	No health effects are known to result from exposure to PFCs.
SF_6	SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900) (19). The EPA indicates that concentrations in the 1990s were about 4 ppt.	SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.	In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

GHGs	Description	Sources	Health Effects
Nitrogen Trifluoride (NF_3)	NF_3 is a colorless gas with a distinctly moldy odor. The World Resources Institute (WRI) indicates that NF_3 has a 100-year GWP of 17,200 (20).	NF_3 is used in industrial processes and is produced in the manufacturing of semiconductors, Liquid Crystal Display (LCD) panels, types of solar panels, and chemical lasers.	Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis (21).

The potential health effects related directly to the emissions of CO_2, CH_4, and N_2O as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to GCC have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport those higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change would likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (22). Exhibit 2-A presents the potential impacts of global warming (23).

EXHIBIT 2-A: SUMMARY OF PROJECTED GLOBAL WARMING IMPACT, 2070-2099 (AS COMPARED WITH 1961-1990)



Source: Barbara H. Allen-Diaz. "Climate change affects us all." *University of California, Agriculture and Natural Resources*, 2009.

2.4 GLOBAL WARMING POTENTIAL

GHGs have varying GWP values. GWP of a GHG indicates the amount of warming a gas cause over a given period of time and represents the potential of a gas to trap heat in the atmosphere. CO_2 is utilized as the reference gas for GWP, and thus has a GWP of 1. CO_2 equivalent (CO_2e) is a term used for describing the difference GHGs in a common unit. CO_2e signifies the amount of CO_2 which would have the equivalent GWP.

The atmospheric lifetime and GWP of selected GHGs are summarized at Table 2-2. As shown in the table below, GWP for the 2nd Assessment Report, the Intergovernmental Panel on Climate Change (IPCC)'s scientific and socio-economic assessment on climate change, range from 1 for CO_2 to 23,900 for SF_6 and GWP for the IPCC's 5th Assessment Report range from 1 for CO_2 to 23,500 for SF_6 (24).

TABLE 2-2: GWP AND ATMOSPHERIC LIFETIME OF SELECT GHGS

Gas	Atmospheric Lifetime (years)	GWP (100-year time horizon)	
		2nd Assessment Report	5th Assessment Report
CO_2	See*	1	1
CH_4	12 .4	21	28
N_2O	121	310	265
HFC-23	222	11,700	12,400
HFC-134a	13.4	1,300	1,300
HFC-152a	1.5	140	138
SF_6	3,200	23,900	23,500

*As per Appendix 8.A. of IPCC's 5th Assessment Report, no single lifetime can be given.
Source: Table 2.14 of the IPCC Fourth Assessment Report, 2007

2.5 GHG EMISSIONS INVENTORIES

2.5.1 GLOBAL

Worldwide anthropogenic GHG emissions are tracked by the IPCC for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2018. Based on the latest available data, the sum of these emissions totaled approximately 28,768,440 gigagram (Gg) CO_2e[1] (25) (26) as summarized on Table 2-3.

[1] The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2018 data, the United Nations' Framework Convention on Climate Change (UNFCCC) data for the most recent year were used U.N. Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," The most recent GHG emissions for China and India are from 2014 and 2010, respectively.

2.5.2 UNITED STATES

As noted in Table 2-3, the United States, as a single country, was the number two producer of GHG emissions in 2018.

TABLE 2-3: TOP GHG PRODUCING COUNTRIES AND THE EUROPEAN UNION [2]

Emitting Countries	GHG Emissions (Gg CO_2e)
China	12,300,200
United States	6,676,650
European Union (28-member countries)	4,232,274
Russian Federation	2,220,123
India	2,100,850
Japan	1,238,343
Total	**28,768,440**

2.5.3 STATE OF CALIFORNIA

California has significantly slowed the rate of growth of GHG emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls but is still a substantial contributor to the United States (U.S.) emissions inventory total (27). The California Air Resource Board (CARB) compiles GHG inventories for the State of California. Based upon the 2020 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2019 GHG emissions period, California emitted an average 418.1 million metric tons of CO_2e per year ($MMTCO_2e/yr$) or 418,100 Gg CO_2e (6.26% of the total United States GHG emissions) (28).

2.6 EFFECTS OF CLIMATE CHANGE IN CALIFORNIA

2.6.1 PUBLIC HEALTH

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35% under the lower warming range to 75 to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. Based on *Our Changing Climate Assessing the Risks to California by the California Climate Change Center*, large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced (29).

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a

[2] Used http://unfccc.int data for Annex I countries. Consulted the CAIT Climate Data Explorer in https://www.climatewatchdata.org site to reference Non-Annex I countries of China and India.

significant increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

2.6.2 WATER RESOURCES

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90%. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

2.6.3 AGRICULTURE

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25% of the water supply needed. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

In addition, continued GCC could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued GCC could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

2.6.4 FORESTS AND LANDSCAPES

GCC has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks would not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90% due to decreased precipitation.

Moreover, continued GCC has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80% by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of GCC.

2.6.5 RISING SEA LEVELS

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

2.7 REGULATORY SETTING

2.7.1 INTERNATIONAL

Climate change is a global issue involving GHG emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce GHGs.

IPCC

In 1988, the United Nations (U.N.) and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

UNITED NATION'S FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

On March 21, 1994, the U.S. joined a number of countries around the world in signing the Convention. Under the UNFCCC, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

INTERNATIONAL CLIMATE CHANGE TREATIES

The Kyoto Protocol is an international agreement linked to the UNFCCC. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at an average of 5% against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the UN Climate Change Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2 degrees Celsius (°C) above pre-industrial levels, subject to a review in 2015. The Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings gradually gained consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 Heads of State and Government and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the U.N. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the UNFCCC reached a landmark agreement on December 12, 2015, in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties (COP) 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2°C, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they would "represent a progression" beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly would not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a) (30).

Following President Biden's day one executive order, the United States officially rejoined the landmark Paris Agreement on February 19, 2021, positioning the country to once again be part of the global climate solution. Meanwhile, city, state, business, and civic leaders across the country and around the world have been ramping up efforts to drive the clean energy advances needed to meet the goals of the agreement and put the brakes on dangerous climate change.

2.7.2 NATIONAL

Prior to the last decade, there have been no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

GHG ENDANGERMENT

In *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), decided on April 2, 2007, the United States Supreme Court (Supreme Court) found that four GHGs, including CO_2, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act (CAA). The Supreme Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned

decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs— CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator's findings (31).

CLEAN VEHICLES

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the U.S. On April 1, 2010, the EPA, and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the U.S.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty (MD) passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the NHTSA issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012. The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and MD passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 mpg if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks (HDT) and buses on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20% reduction in CO_2 emissions and fuel consumption by the 2018 model year. For HDT and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10% reduction for gasoline vehicles and a 15% reduction for diesel vehicles by the 2018 model year (12 and 17% respectively if

accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10% reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

On April 2, 2018, the EPA signed the Mid-term Evaluation Final Determination, which declared that the MY 2022-2025 GHG standards are not appropriate and should be revised (32). This Final Determination serves to initiate a notice to further consider appropriate standards for MY 2022-2025 light-duty vehicles. On August 2, 2018, the NHTSA in conjunction with the EPA, released a notice of proposed rulemaking, the *Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule). The SAFE Vehicles Rule was proposed to amend exiting Corporate Average Fuel Economy (CAFE) and tailpipe CO_2 standards for passenger cars and light trucks and to establish new standards covering model years 2021 through 2026. As of March 31, 2020, the NHTSA and EPA finalized the SAFE Vehicle Rule which increased stringency of CAFE and CO_2 emissions standards by 1.5% each year through model year 2026 (33).

MANDATORY REPORTING OF GHGS

The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the U.S. and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons per year (MT/yr) or more of GHG emissions are required to submit annual reports to the EPA.

NEW SOURCE REVIEW

The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities would be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

> *"This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the CAA, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant*

Deterioration and Title V permitting for GHG emissions until at least April 30, 2016."

The EPA estimates that facilities responsible for nearly 70% of the national GHG emissions from stationary sources would be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

STANDARDS OF PERFORMANCE FOR GHG EMISSIONS FOR NEW STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS

As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO_2 for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts (MW) would be required to meet an output-based standard of 1,000 pounds (lbs) of CO_2 per MW-hour (MWh), based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016, the Supreme Court issued a stay of this regulation pending litigation. Additionally, the current EPA Administrator has also signed a measure to repeal the Clean Power Plan, including the CO_2 standards. The Clean Power Plan was officially repealed on June 19, 2019, when the EPA issued the final Affordable Clean Energy rule (ACE). Under ACE, new state emission guidelines were established that provided existing coal-fired electric utility generating units with achievable standards.

CAP-AND-TRADE

Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded or provides flexibility on how the emitter can comply. Successful examples in the U.S. include the Acid Rain Program and the N_2O Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional GHG Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO_2 emissions from power plants, auctions CO_2 emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008 and in 2020 has retained all participating states.

The Western Climate Initiative (WCI) partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15% below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec's cap-and-trade system January 1, 2014, and joint offset auctions took place in 2015. While the WCI has yet to publish whether it has successfully reached the 2020 emissions goal initiative set in 2007, SB 32 requires that California, a major partner in the WCI, adopt the goal of reducing statewide GHG emissions to 40% below the 1990 level by 2030.

SMARTWAY PROGRAM

The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (34):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all HDTs would have to comply with the CARB GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53 foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10% or more fuel savings over traditional trailers.

Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions, and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined the following types of technologies provide fuel saving and/or emission reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies – less idling of the engine when it is not needed would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel would eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc., which would reduce emissions.
- Federal excise tax exemptions.

EXECUTIVE ORDER 13990

On January 20, 2021, Federal agencies were directed to immediately review, and take action to address, Federal regulations promulgated and other actions taken during the last 4 years that conflict with national objectives to improve public health and the environment; ensure access to clean air and water; limit exposure to dangerous chemicals and pesticides; hold polluters accountable, including those who disproportionately harm communities of color and low-income communities; reduce greenhouse gas emissions; bolster resilience to the impacts of climate change; restore and expand our national treasures and monuments; and prioritize both environmental justice and employment.

2.7.3 CALIFORNIA

2.7.3.1 LEGISLATIVE ACTIONS TO REDUCE GHGS

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32

The California State Legislature enacted AB 32, which required that GHGs emitted in California be reduced to 1990 levels by the year 2020 (this goal has been met[3]). GHGs as defined under AB 32 include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Since AB 32 was enacted, a seventh chemical, NF_3, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

> *"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."*

SB 375

On September 30, 2008, SB 375 was signed by Governor Schwarzenegger. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40% of the total

[3] Based upon the 2019 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2017 GHG emissions period, California emitted an average 424.1 $MMTCO_2e$ (29). This is less than the 2020 emissions target of 431 $MMTCO_2e$.

GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California would not be able to achieve the goals of AB 32." SB 375 does the following: it (1) requires metropolitan planning organizations (MPOs) to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

SB 375 requires MPOs to prepare a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP) that guides growth while taking into account the transportation, housing, environmental, and economic needs of the region. SB 375 uses CEQA streamlining as an incentive to encourage residential projects, which help achieve AB 32 goals to reduce GHG emissions. Although SB 375 does not prevent CARB from adopting additional regulations, such actions are not anticipated in the foreseeable future.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that CARB accepts as achieving the GHG emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the MMs required by an applicable prior environmental document.

AB 1493 - Pavley Fuel Efficiency Standards

Enacted on July 22, 2002, California AB 1493, also known as the Pavley Fuel Efficiency Standards, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase in during the 2009 through 2016 MY. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program (LEV III) or the Advanced Clean Cars (ACC) program. The ACC program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for MY 2017 through 2025. The regulation would reduce GHGs from new cars by 34% from 2016 levels by 2025. The new rules would clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles (EV) and hydrogen fuel

cell cars. The package would also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and Governor Jerry Brown signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for EV charging stations. Provisions for a 50% reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target would be achieved through the California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which would facilitate the growth of renewable energy markets in the western United States.

SB 32

On September 8, 2016, Governor Brown signed SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (11).

CARB SCOPING PLAN UPDATE

In November 2017, CARB released the *Final 2017 Scoping Plan Update* (*2017 Scoping Plan*), which identifies the State's post-2020 reduction strategy. The *2017 Scoping Plan* reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the LCFS, and much cleaner cars, trucks, and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH_4 emissions from agricultural and other wastes.

The *2017 Scoping Plan* establishes a new emissions limit of 260 $MMTCO_2e$ for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030 (35).

California's climate strategy would require contributions from all sectors of the economy, including the land base, and would include enhanced focus on zero and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation

and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (CH_4, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries would further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the *2017 Scoping Plan* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero-emission vehicles (ZEV) buses and trucks.
- LCFS, with an increased stringency (18% by 2030).
- Implementing SB 350, which expands the RPS to 50% RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing CH_4 and HCF emissions by 40% and anthropogenic black carbon emissions by 50% by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20% reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Note, however, that the *2017 Scoping Plan* acknowledges that:

> *"[a]chieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA."*

In addition to the statewide strategies listed above, the *2017 Scoping Plan* also identifies local governments as essential partners in achieving the State's long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of no more than 6 metric tons of CO_2e ($MTCO_2e$) or less per capita by 2030 and 2 $MTCO_2e$ or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidence-based bright-line numeric thresholds—consistent with the *2017 Scoping Plan* and the State's long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and MMs that avoid or minimize project emissions to the degree feasible; or a performance-based metric using a CAP or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory (LBNL) and supported by CARB, California, under its existing and proposed GHG reduction policies, could achieve the 2030 goals under SB 32. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that by 2030, emissions could range from 211 to 428 $MTCO_2e$ per year ($MTCO_2e$/yr), indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40% below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Although the research indicated that the emissions would not meet the State's 80% reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050 (36) (37).

CAP-AND-TRADE PROGRAM

The *2017 Scoping Plan* identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program would help put California on the path to meet its goal of achieving a 40% reduction in GHG emissions from 1990 levels by 2030. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap would be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from regulated entities by more than 16% between 2013 and 2020, and by an additional 40% by 2030. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and would decline over time, achieving GHG emission reductions throughout the program's duration.

Covered entities that emit more than 25,000 $MTCO_2e$/yr must comply with the Cap-and-Trade Program. Triggering of the 25,000 $MTCO_2e$/yr "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" for each $MTCO_2e$ of GHG they emit. There also are requirements to surrender compliance instruments covering 30% of the prior year's compliance obligation by November of each year (38).

The Cap-and-Trade Program provides a firm cap, which provides the highest certainty of achieving the 2030 target. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather,

GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in the *First Update to the Climate Change Scoping Plan*:

> *"The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative."* (39)

The Cap-and-Trade Program covers approximately 80% of California's GHG emissions (35). The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported.

2.7.3.2 EXECUTIVE ORDERS RELATED TO GHG EMISSIONS

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

EXECUTIVE ORDER S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that would stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

EXECUTIVE ORDER S-01-07 (LCFS)

Governor Schwarzenegger signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. CARB adopted the LCFS on April 23, 2009.

The LCFS was challenged in the U.S. District Court in Fresno in 2011. The court's ruling issued on December 29, 2011, included a preliminary injunction against CARB's implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012, pending final ruling on appeal, allowing CARB to continue to implement and enforce the regulation. The Ninth Circuit Court's decision, filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that LCFS adopted by CARB were not in conflict with federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled CARB failed to comply with CEQA and the Administrative Procedure Act (APA) when adopting regulations for LCFS. In a partially published opinion, the Court of Appeal reversed the trial court's judgment and directed issuance of a writ of mandate setting aside Resolution 09-31 and two executive orders of CARB approving LCFS regulations promulgated to reduce GHG emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while CARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, CARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity fuels, offer additional flexibility to regulated parties, update critical technical information, simplify, and streamline program operations, and enhance enforcement. On November 16, 2015, the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

In 2018, CARB approved amendments to the regulation, which included strengthening the carbon intensity benchmarks through 2030 in compliance with the SB 32 GHG emissions reduction target for 2030. The amendments included crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector (40).

EXECUTIVE ORDER S-13-08

Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the Order, the *2009 California Climate Adaptation Strategy* (*CNRA 2009*) was adopted, which is the "…first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying, and exploring strategies to adapt to climate change, and specifying a direction for future research.

EXECUTIVE ORDER B-30-15

On April 29, 2015, Governor Brown issued an executive order to establish a California GHG reduction target of 40% below 1990 levels by 2030. The Governor's executive order aligned California's GHG reduction targets with those of leading international governments ahead of the U.N. Climate Change Conference in Paris late 2015. The Order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40% below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80% below 1990 levels by 2050 and directs CARB to update the *2017 Scoping Plan* to express the 2030 target in terms of $MMTCO_2e$. The Order also requires the state's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable as to local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature.

EXECUTIVE ORDER B-55-18 AND SB 100

SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales of electricity are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours (kWh) of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California EPA (CalEPA), the California Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

2.7.3.3 CALIFORNIA REGULATIONS AND BUILDING CODES

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

TITLE 20 CCR SECTIONS 1601 ET SEQ. – APPLIANCE EFFICIENCY REGULATIONS

The Appliance Efficiency Regulations regulate the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state

and those designed and sold exclusively for use in recreational vehicles (RV) or other mobile equipment (CEC 2012).

TITLE 24 CCR PART 6 – CALIFORNIA ENERGY CODE

The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods.

TITLE 24 CCR PART 11 – CALIFORNIA GREEN BUILDING STANDARDS CODE

The California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2009, and is administered by the California Building Standards Commission (CBSC).

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2019 California Green Building Code Standards that became effective January 1, 2020.

Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction waste and demolition ordinances and defers to them as the ruling guidance provided they establish a minimum 65% diversion requirement.

The code also provides exemptions for areas not served by construction waste and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official.

Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas (GHG) emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020.

The 2019 Title 24 standards would result in less energy use, thereby reducing air pollutant emissions associated with energy consumption in the SCAB and across the State of California. For example, the 2019 Title 24 standards would require solar photovoltaic systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting requirements for nonresidential buildings.

The CEC anticipates that single-family homes built with the 2019 standards would use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar photovoltaic systems, homes built under the 2019 standards would use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings (such as the Project) would use approximately 30% less energy due to lighting upgrade requirements (19).

Because the Project would be constructed after January 1, 2020, the 2019 CALGreen standards are applicable to the Project and require, among other items (20):

RESIDENTIAL MANDATORY MEASURES

- Electric vehicle (EV) charging stations. New construction shall comply with Section 4.106.4.1, 4.106.4.2, 4.106.4.3, to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code*, Article 625. (4.106.4).
    - New one- and two-family dwellings and town-houses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.
    - New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1.
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with Sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4.
- Outdoor potable water use in landscape areas. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resource ' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.
- Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:
    - Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
    - Operations and maintenance instructions for the following:
        - Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, EV chargers, water-heating systems and other major appliances and equipment.
        - Roof and yard drainage, including gutter and downspouts.
        - Space conditioning systems, including condensers and air filters.
        - Landscape irrigation systems.
        - Water reuse systems.
    - Information from local utility, water and waste recovery providers on methods to future reduce resource consumption, including recycle programs and locations.

- Public transportation and/or carpool options available in the area.
- Educational material on the positive impacts of an interior relative humidity between 30-60% and what methods an occupants may use to maintain the relative humidity level in that range.
- Information about water-conserving landscape and irrigation design and controllers which conserve water.
- Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
- Information about state solar energy and incentive programs available.
- A copy of all special inspection verifications required by the enforcing agency of this code.
- Information from CALFIRE on maintenance of defensible space around residential structures.

- Any installed gas fireplace shall be direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.
- Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the CARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-high Gloss coating, based on its glass, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 CARB, Suggested Control Measure, and the corresponding Flat, Nonflat, Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.

NONRESIDENTIAL MANDATORY MEASURES

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3).
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8)

- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section
- 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor- mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combine flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
    - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor portable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day (5.303.1.1 and 5.303.1.2).
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).
- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

CARB REFRIGERANT MANAGEMENT PROGRAM

CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, CCR. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

TRACTOR-TRAILER GHG REGULATION

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the HD tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors MY 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

PHASE I AND 2 HEAVY-DUTY VEHICLE GHG STANDARDS

In September 2011, CARB has adopted a regulation for GHG emissions from HDTs and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing HD vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer GHG Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements began with MY 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) HD pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB staff has worked jointly with the EPA and the NHTSA on the next phase of federal GHG emission standards for medium-duty trucks (MDT) and HDT vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later MY HDT vehicles, including trailers. The EPA and NHTSA have proposed to roll back GHG and fuel economy standards for cars and light-duty trucks, which suggests a similar rollback of Phase 2 standards for MDT and HDT vehicles may be pursued.

SB 97 AND THE CEQA GUIDELINES UPDATE

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research (OPR) shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the OPR pursuant to subdivision (a)."

In 2012, Public Resources Code Section 21083.05 was amended to state:

> *"The Office of Planning and Research and the Natural Resources Agency shall periodically update the guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption, to incorporate new information or criteria established by the State Air Resources Board pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code."*

On December 28, 2018, the Natural Resources Agency announced the OAL approved the amendments to the *CEQA Guidelines* for implementing CEQA. The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing *CEQA Guidelines* to reference climate change.

Section 15064.4 was added the *CEQA Guidelines* and states that in determining the significance of a project's GHG emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively insignificant compared to statewide, national, or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. Additionally, a lead agency may use a model or methodology to estimate GHG emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use (41).

2.7.4 REGIONAL

The project is within the SCAB, which is under the jurisdiction of the SCAQMD.

SCAQMD

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a

lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SCAB. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – Interim CEQA GHG Significance Threshold, which could be applied by lead agencies. The working group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
    - Residential and commercial land use: 3,000 $MTCO_2e/yr$
    - Industrial land use: 10,000 $MTCO_2e/yr$
    - Based on land use type: residential: 3,500 $MTCO_2e/yr$; commercial: 1,400 $MTCO_2e/yr$; or mixed use: 3,000 $MTCO_2e/yr$
- Tier 4 has the following options:
    - Option 1: Reduce Business-as-Usual (BAU) emissions by a certain percentage; this percentage is currently undefined.
    - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
    - Option 3: 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$ per SP per year for projects and 6.6 $MTCO_2e$ per SP per year for plans;
    - Option 3, 2035 target: 3.0 $MTCO_2e$ per SP per year for projects and 4.1 $MTCO_2e$ per SP per year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05-year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO_2 concentrations at 450 ppm, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the Project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD would fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

SCAQMD is the agency responsible for air quality planning and regulation in the SCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

This page intentionally left blank

3 PROJECT GHG IMPACT

3.1 INTRODUCTION

The Project has been evaluated to determine if it will result in a significant GHG impact. The significance of these potential impacts is described in the following sections.

3.2 STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related GHG impacts are taken from the Initial Study Checklist in Appendix G of the State *CEQA Guidelines* (14 CCR of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to GHG if it would (1):

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

3.2.1 DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS

The City of Wildomar has not adopted its own numeric threshold of significance for determining impacts with respect to GHG emissions. A screening threshold of 3,000 $MTCO_2e$/yr to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the City of Menifee and numerous cities in the South Coast Air Basin and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required (42). As noted by the SCAQMD:

> *"…the…screening level for stationary sources is based on an emission capture rate of 90% for all new or modified projects...the policy objective of [SCAQMD's] recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90% of all new or modified stationary source projects. A GHG significance threshold based on a 90% emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90% emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that [SCAQMD] staff estimates that these GHG emissions would account for slightly less than 1% of future 2050 statewide GHG emissions target (85 [$MMTCO_2e$/yr]). In addition, these small projects may be subject to future applicable GHG control regulations that would further reduce their*

overall future contribution to the statewide GHG inventory. Finally, these small sources are already subject to [Best Available Control Technology] (BACT) for criteria pollutants and are more likely to be single-permit facilities, so they are more likely to have few opportunities readily available to reduce GHG emissions from other parts of their facility." (43)

Thus, and based on guidance from the SCAQMD, if a non-industrial project would emit GHGs less than 3,000 $MTCO_2e$ per year, the project is not considered a substantial GHG emitter and the GHG impact is less than significant, requiring no additional analysis and no mitigation. On the other hand, if a non-industrial project would emit GHGs in excess of 3,000 $MTCO_2e$/yr, then the project could be considered a substantial GHG emitter, requiring additional analysis and potential mitigation.

As previously discussed, a screening threshold of 3,000 $MTCO_2e$/yr is an acceptable approach for small projects to determine if additional analysis is required and is therefore applied for this Project.

3.3 MODELS EMPLOYED TO ANALYZE GHGS

3.3.1 CALIFORNIA EMISSIONS ESTIMATOR MODEL (CALEEMOD)

In May 2021, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2020.4.0. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (44). Accordingly, the latest version of CalEEMod has been used for this Project to determine GHG emissions. Output from the model runs for construction and operational activity are provided in Appendices 3.1 through 3.2. CalEEMod includes GHG emissions from the following source categories: construction, area, energy, mobile, waste, water.

3.4 LIFE-CYCLE ANALYSIS NOT REQUIRED

A full life-cycle analysis (LCA) for construction and operational activity is not included in this analysis due to the lack of consensus guidance on LCA methodology at this time (45). Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the Project development, infrastructure, and on-going operations) depends on emission factors or econometric factors that are not well established for all processes. At this time, an LCA would be extremely speculative and thus has not been prepared.

Additionally, the SCAQMD recommends analyzing direct and indirect project GHG emissions generated within California and not life-cycle emissions because the life-cycle effects from a project could occur outside of California, might not be very well understood, or documented, and would be challenging to mitigate (46). Additionally, the science to calculate life cycle emissions is not yet established or well defined; therefore, SCAQMD has not recommended, and is not requiring, life-cycle emissions analysis.

3.5 CONSTRUCTION EMISSIONS

Project construction actvities would generate CO_2 and CH_4 emissions The report *Wildomar Crossroads Air Quality Impact Analysis Report* (AQIA) contains detailed information regarding Project construction activities (47). As discussed in the AQIA, Construction related emissions are expected from the following construction activities:

- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

3.5.1 CONSTRUCTION DURATION

Construction is anticipated to begin in December 2022 and will last through February 2024. The construction schedule utilized in the analysis, shown in Table 3-1, represents a "worst-case" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent[4]. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (48).

TABLE 3-1: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Days
Demolition	12/01/2022	12/28/2022	20
Site Preparation	12/29/2022	01/11/2023	10
Grading	01/12/2023	02/08/2023	20
Building Construction	02/09/2023	12/27/2023	230
Paving	12/28/2023	01/24/2024	20
Architectural Coating	01/25/2024	02/21/2024	20

Source: Construction schedule based on CalEEMod default parameters.

3.5.2 CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-2 will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

[4] As shown in the CalEEMod User's Guide Version 2020.4.0, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 3-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment	Amount	Hours Per Day
Demolition	Concrete/Industrial Saws	1	8
	Excavators	3	8
	Rubber Tired Dozers	2	8
Site Preparation	Crawler Tractors	4	8
	Rubber Tired Dozers	3	8
Grading	Crawler Tractors	3	8
	Excavators	1	8
	Graders	1	8
	Rubber Tired Dozers	1	8
Building Construction	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	3	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

Source: Construction equipment based on CalEEMod default parameters.

3.5.3 CONSTRUCTION EMISSIONS SUMMARY

For construction emissions, GHGs are quantified and amortized over the life of the Project. To amortize the emissions over the life of the Project, the SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 30-year Project life then adding that number to the annual operational phase GHG emissions (49). As such, construction emissions were amortized over a 30-year period and added to the annual operational phase GHG emissions. The amortized construction emissions are presented in Table 3-3.

TABLE 3-3: AMORTIZED ANNUAL CONSTRUCTION EMISSIONS

Year	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e[5]
2022	41.38	0.01	1.80E-04	41.71
203	773.37	0.10	0.04	787.24
2024	27.44	6.14E-03	3.00E-04	27.68
Total GHG Emissions	842.19	0.11	0.04	856.63
Amortized Construction Emissions ($MTCO_2e$)	**28.07**	**3.81E-03**	**1.30E-03**	**28.55**

Source CalEEMod annual construction-source emissions are presented in Appendix 3.1.

3.6 OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of CO_2, CH_4, and N_2O from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions
- Water Supply, Treatment, and Distribution
- Solid Waste

3.6.1 AREA SOURCE EMISSIONS

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that as October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by 2024. For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

3.6.2 ENERGY SOURCE EMISSIONS

COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a

[5] CalEEMod reports the most common GHGs emitted which include CO_2, CH_4, and N_2O. These GHGs are then converted into the CO_2e by multiplying the individual GHG by the GWP.

building; the building energy use emissions do not include street lighting[6]. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. It should be noted that for the proposed Project, CalEEMod default parameters were used.

3.6.3 MOBILE SOURCE EMISSIONS

The Project GHG emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site and truck trips associated with the proposed uses. Trip characteristics available from the *Wildomar Crossroads Traffic Impact Analysis* were utilized in this analysis (50).

TRIP LENGTH

Due to the predominately retail nature of the Project (supermarket, shops, fast-food restaurant with drive-thru, coffee/donut shop with drive-thru, and high-turnover (sit down) restaurant), the Project's location, a substantial amount of residential land uses within a 2-mile radius of the Project site, and other retail uses located in the Project vicinity, an average trip length for customers of 2 miles was used in the assessment as opposed to the 8.4-mile model default trip length value. As evaluated in the *Wildomar Crossroads Traffic Impact Analysis*, the Project consists of a mixed-use development which tend to shorten vehicle trips. As such, since the Project contains mixed-uses and is surrounded by residential land uses, the adjustments to the CalEEMod default trip length for retail land uses are substantiated. CalEEMod defaults for trip length were utilized for the Multifamily Housing (Mid-Rise) portion of the Project.

3.6.4 WATER SUPPLY, TREATMENT AND DISTRIBUTION

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. Unless otherwise noted, CalEEMod default parameters were used.

3.6.5 SOLID WASTE

Industrial land uses will result in the generation and disposal of solid waste. A percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by CalEEMod using default parameters.

[6] The CalEEMod emissions inventory model does not include indirect emission related to street lighting. Indirect emissions related to street lighting are expected to be negligible and cannot be accurately quantified at this time as there is insufficient information as to the number and type of street lighting that would occur.

3.6.6 EMISSIONS SUMMARY

The annual GHG emissions associated with the Project are summarized in Table 3-4. As shown in Table 3-4, construction and operation of the Project would generate a total of 2,833.80 $MTCO_2e$/yr.

TABLE 3-4: PROJECT SCENARIO GHG EMISSIONS

Emission Source	Emissions (MT/yr)			
	CO_2	CH_4	N_2O	Total CO_2e
Annual construction-related emissions amortized over 30 years	28.07	3.81E-03	1.30E-03	28.55
Area Source	38.56	0.00315	0.00066	38.84
Energy Source	573.98	0.03	0.00785	577.13
Mobile Source	1,917.05	0.17	0.13	1,960.36
Waste	62.51	3.69	0.00	154.87
Water Usage	57.40	0.52	0.01	74.04
Total CO_2e (All Sources)	**2,833.80**			

Source: CalEEMod output, See Appendices 3.1 and 3.2 for detailed model outputs.

3.7 GHG EMISSIONS FINDINGS AND RECOMMENDATIONS

3.7.1 GHG IMPACT 1

Potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment.

The City of Wildomar has not adopted its own numeric threshold of significance for determining impacts with respect to GHG emissions. A screening threshold of 3,000 $MTCO_2e$/yr to determine if additional analysis is required is an acceptable approach for small projects. This approach is a widely accepted screening threshold used by the County of Riverside (51) and numerous cities in the SCAB and is based on the SCAQMD staff's proposed GHG screening threshold for stationary source emissions for non-industrial projects, as described in the SCAQMD's *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans* ("SCAQMD Interim GHG Threshold"). The SCAQMD Interim GHG Threshold identifies a screening threshold to determine whether additional analysis is required (43).

The Project will result in approximately 2,833.80 $MTCO_2e$/yr as shown on Table 3-4. As such, the Project would not exceed the SCAQMD's recommended numeric threshold of 3,000 $MTCO_2e$/yr if it were applied. As such, project-related emissions would have a less than significant direct or indirect impact on GHG and climate change and no mitigation measures are required.

The Project would not have the potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment.

3.7.2 GHG IMPACT 2

The Project would have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

As previously stated, pursuant to 15604.4 of the *CEQA Guidelines*, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (48). As such, the Project's consistency with SB 32 (2017 Scoping Plan), is discussed below. It Consistency with AB 32 and the 2008 Scoping Plan is not necessary, since the target year for AB 32 and the 2008 Scoping Plan was 2020, and the Project's buildout year is 2024. As such the 2008 Scoping Plan does not apply and consistency with the 2017 Scoping Plan is relevant. Project consistency with SB 32 and the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan (CAP) is evaluated in the following discussion.

SB 32/2017 SCOPING PLAN CONSISTENCY

The 2017 Scoping Plan Update reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Table 3-5 summarizes the Project's consistency with the 2017 Scoping Plan. As summarized, the Project will not conflict with any of the provisions of the Scoping Plan and in fact supports seven of the action categories.

TABLE 3-5: 2017 SCOPING PLAN CONSISTENCY SUMMARY[7]

Action	Responsible Parties	Consistency
Implement SB 350 by 2030		
Increase the Renewables Portfolio Standard to 50% of retail sales by 2030 and ensure grid reliability.	CPUC, CEC, CARB	Consistent. This measure is not directly applicable to development projects, but the proposed Project would use energy from Southern California Edison (SCE), which has committed to diversify its portfolio of energy sources by increasing energy from wind and solar sources.
Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.		Consistent. The Project would be constructed in compliance with current California Building Code requirements. Specifically, new buildings must achieve compliance with 2019 Building and Energy Efficiency Standards and the 2019

[7] Measures can be found at the following link: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf

Action	Responsible Parties	Consistency
Reduce GHG emissions in the electricity sector through the implementation of the above measures and other actions as modeled in Integrated Resource Planning (IRP) to meet GHG emissions reductions planning targets in the IRP process. Load-serving entities and publicly- owned utilities meet GHG emissions reductions planning targets through a combination of measures as described in IRPs.		California Green Building Standards requirements. The proposed Project includes energy efficient field lighting and fixtures that meet the current Title 24 Standards throughout the Project Site and would be a modern development with energy efficient boilers, heaters, and air conditioning systems.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)		
At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025.	CARB, California State Transportation Agency (CalSTA), Strategic Growth Council (SGC), California Department of Transportation (Caltrans), CEC, OPR, Local Agencies	Consistent. These are CARB enforced standards; vehicles that access the Project that are required to comply with the standards will comply with the strategy.
At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.		Consistent. These are CARB enforced standards; vehicles that access the Project that are required to comply with the standards will comply with the strategy.
Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean cars regulations.		Consistent. These are CARB enforced standards; vehicles that access the Project that are required to comply with the standards will comply with the strategy
Medium- and Heavy-Duty GHG Phase 2.		Consistent. These are CARB enforced standards; vehicles that access the Project that are required to comply with the standards will comply with the strategy
Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20% of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100% of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.		Not applicable. This measure is not within the purview of this Project.
Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5% of new Class 3–7 truck sales in local fleets starting in 2020,		Not applicable. This Project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.

Action	Responsible Parties	Consistency
increasing to 10% in 2025 and remaining flat through 2030.		
Further reduce vehicle miles traveled (VMT) through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."		Not applicable. This Project is not responsible for implementation of SB 375 and would therefore not conflict with this measure.
Increase stringency of SB 375 Sustainable Communities Strategy (2035 targets).	CARB	Not applicable. The Project is not within the purview of SB 375 and would therefore not conflict with this measure.
By 2019, adjust performance measures used to select and design transportation facilities		
Harmonize project performance with emissions reductions and increase competitiveness of transit and active transportation modes (e.g. via guideline documents, funding programs, project selection, etc.).	CalSTA, SGC, OPR, CARB, Governor's Office of Business and Economic Development (GO-Biz), California Infrastructure and Economic Development Bank (IBank), Department of Finance (DOF), California Transportation Commission (CTC), Caltrans	Not applicable. Although this is directed towards CARB and Caltrans, the proposed Project would be designed to promote and support pedestrian activity on-site and in the Project Site area by providing pedestrian access from the residential section to the shopping center.
By 2019, develop pricing policies to support low-GHG transportation (e.g. low-emission vehicle zones for heavy duty, road user, parking pricing, transit discounts).	CalSTA, Caltrans, CTC, OPR, SGC, CARB	Not applicable. This Project is not responsible for developing pricing policies to support low-GHG transportation.

Action	Responsible Parties	Consistency
Implement California Sustainable Freight Action Plan		
Improve freight system efficiency.	CalSTA, CalEPA, CNRA, CARB, Caltrans, CEC, GO-Biz	When adopted, this measure would apply to all trucks accessing the Project site, this may include existing trucks or new trucks that are part of the statewide goods movement sector.
Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030.		Not applicable. This measure is not within the purview of this Project.
Adopt a Low Carbon Fuel Standard with a Carbon Intensity reduction of 18%.	CARB	LCFS, with an increased stringency (18% by 2030). When adopted, this measure would apply to all fuel purchased and used by the Project in the state.
Implement the Short-Lived Climate Pollutant Strategy by 2030		
40% reduction in methane and hydrofluorocarbon emissions below 2013 levels.	CARB, CalRecycle, CDFA, SWRCB, Local Air Districts	When adopted, the Project would be required to comply with this measure and reduce SLPS accordingly.
50% reduction in black carbon emissions below 2013 levels.		Not applicable. This measure is not within the purview of this Project.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	CARB, CalRecycle, CDFA SWRCB, Local Air Districts	Not applicable. This measure is not within the purview of this Project.
Implement the post-2020 Cap-and-Trade Program with declining annual caps.	CARB	When adopted, the Project would be required to comply with the Cap-and-Trade Program if it generates emissions from sectors covered by Cap-and-Trade.
By 2018, develop Integrated Natural and Working Lands Implementation Plan to secure California's land base as a net carbon sink		

Action	Responsible Parties	Consistency
Protect land from conversion through conservation easements and other incentives.	CNRA, Departments Within CDFA, CalEPA, CARB	Not applicable. This measure is not within the purview of this Project.
Increase the long-term resilience of carbon storage in the land base and enhance sequestration capacity		Not applicable. This measure is not within the purview of this Project.
Utilize wood and agricultural products to increase the amount of carbon stored in the natural and built environments		Not applicable. This measure is not within the purview of this Project.
Establish scenario projections to serve as the foundation for the Implementation Plan		Not applicable. This measure is not within the purview of this Project.
Establish a carbon accounting framework for natural and working lands as described in SB 859 by 2018	CARB	Not applicable. This measure is not within the purview of this Project.
Implement Forest Carbon Plan	CNRA, California Department of Forestry and Fire Protection (CAL FIRE), CalEPA and Departments Within	Not applicable. This measure is not within the purview of this Project.
Identify and expand funding and financing mechanisms to support GHG reductions across all sectors.	State Agencies & Local Agencies	Not applicable. This measure is not within the purview of this Project.

As shown above, the Project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the Project. Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40% below 1990 levels by 2030 (36).

CONSISTENCY WITH WRCOG SUBREGIONAL CAP

The City of Wildomar is a participant in the WRCOG Subregional CAP. The specific goals and actions that are applicable to the proposed Project include those pertaining to energy and water use reduction, promotion of green building measures, waste reduction, and reduction in vehicle

miles traveled. Projects that demonstrate consistency with the strategies, actions, and emission reduction targets contained in the CAP would have a less than significant impact on climate change. The proposed Project would be required to include all mandatory green building measures for new developments under the CALGreen Code, which would require that the new buildings reduce water consumption, employ building commissioning to increase building system materials. In addition, the City's requires that all landscaping comply with water efficient landscaping requirements. The implementation of these stricter building and appliance standards would result in water, energy, and construction waste reductions for the proposed Project. The proposed Project will be compliant with the goal and objectives set forth in the WRCOG's Subregional CAP with implementation of applicable requirements of California Building Code Title 24 and the CALGreen Code. It should be noted that the CAP is currently in the process of updating its strategies to reduce GHG emissions for all sectors and establish GHG targets for the year 2050.

The Project would not have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

This page intentionally left blank

4 REFERENCES

1. **State of California.** *2020 CEQA California Environmental Quality Act.* 2020.
2. **Air Resources Board.** Assembly Bill 32: Global Warming Solutions Act. [Online] 2006. http://www.arb.ca.gov/cc/ab32/ab32.htm.
3. —. Sustainable Communities. [Online] 2008. http://www.arb.ca.gov/cc/sb375/sb375.htm.
4. —. Clean Car Standards - Pavley, Assembly Bill 1493. [Online] September 24, 2009. http://www.arb.ca.gov/cc/ccms/ccms.htm.
5. **Building Standards Commission.** California Building Standards Code (Title 24, California Code of Regulations). [Online] http://www.bsc.ca.gov/codes.aspx.
6. **California Energy Commission.** California Code of Regulations, TITLE 20, Division 2. [Online] September 3, 2013. http://www.energy.ca.gov/reports/title20/index.html.
7. **Air Resources Board.** Title 17 - California Code of Regulation. [Online] 2010. http://www.arb.ca.gov/regs/regs-17.htm.
8. **Department of Water Resources.** Updated Model Water Efficient Landscape Ordinance AB 1881. [Online] 2006. [Cited: November 13, 2013.] http://www.water.ca.gov/wateruseefficiency/landscapeordinance/updatedOrd_history.cfm.
9. **California Energy Commission.** SB 1368 Emission Performance Standards. [Online] September 29, 2006. http://www.energy.ca.gov/emission_standards/.
10. —. Renewables Portfolio Standard (RPS). [Online] 2002. http://www.energy.ca.gov/portfolio/.
11. **California Legislative Information.** Senate Bill No. 32. [Online] September 8, 2016. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32.
12. **National Oceanic and Atmospheric Administration.** Greenhouse Gases - Water Vapor. *NOAA National Centers For Environmental Information.* [Online] https://www.ncdc.noaa.gov/monitoring-references/faq/greenhouse-gases.php?section=watervapor.
13. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report.* **International Panel on Climate Change.** 4, 2007.
14. *The Carbon Cycle and Climate Change.* **Bennington, Bret J.** 1, s.l. : Brooks/Cole. ISBN 1 3: 978-0-495-73855-8.
15. **The National Institute for Occupational Safety and Health.** Carbon Dioxide. *Centers for Disease Control and Prevention.* [Online] https://www.cdc.gov/niosh/npg/npgd0103.html.
16. **National Oceanic and Atmospheric Administration.** Greenhouse Gases - Methane. *NOAA National Centers for Environmental Information.* [Online] https://www.ncdc.noaa.gov/monitoring-references/faq/greenhouse-gases.php?section=methane.
17. **World Resources Institute.** Climate Analysis Indicator Tool (CAIT). [Online] http://cait.wri.org.
18. **National Oceanic and Atmospheric Administration.** Greenhouse Gases - Chlorofluorocarbons. *NOAA National Centers For Environmental Information.* [Online] https://www.ncdc.noaa.gov/monitoring-references/faq/greenhouse-gases.php?section=chlorofluorocarbons.
19. **United States Environmental Protection Agency.** Regulation for Reducting Sulfur Hexafluoride Emissions from Gas Insulated Switchgear. *Environmental Protection Agency.* [Online] May 7, 2014.

https://www.epa.gov/sites/production/files/2016-02/documents/mehl-arb-presentation-2014-wkshp.pdf.

20. **World Resources Institute.** Nitrogen Trifluoride Now Required in GHG Protocol Greenhouse Gas Emissions Inventory. [Online] May 22, 2013. https://www.wri.org/blog/2013/05/nitrogen-trifluoride-now-required-ghg-protocol-greenhouse-gas-emissions-inventories.
21. **National Center for Biotechnology Information.** Nitrogen Trifluoride. *PubChem Compound Database.* [Online] https://pubchem.ncbi.nlm.nih.gov/compound/24553 .
22. **American Lung Association.** Climate Change. [Online] http://www.lung.org/our-initiatives/healthy-air/outdoor/climate-change/.
23. **Barbara H. Allen-Diaz.** Climate change affects us all. *University of California Agriculture and Natural Resources.* [Online] April 1, 2009. http://calag.ucanr.edu/Archive/?article=ca.v063n02p51.
24. **Intergovernmental Panel on Climate Change.** Climate Change 2013 The Physical Science Basis - Working Group I Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. *AR5 Climate Change 2013: The Physical Science Basis.* [Online] September 2013. https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf.
25. **United Nations.** GHG Profiles - Annex I. [Online] http://di.unfccc.int/ghg_profile_annex1.
26. —. GHG Profiles - Non-Annex I. [Online] http://di.unfccc.int/ghg_profile_non_annex1.
27. **World Resources Institute.** Climate Analysis Indicator Tool (CAIT). [Online] http://cait.wri.org.
28. **Air Resources Board.** 2020 GHG Inventory. *California Greenhouse Gas Emission Inventory 2000-2019 Edition.* [Online] https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf.
29. **California Energy Commission.** *Our Changing Climate Assessing the Risks to California.* 2006.
30. **Center for Climate and Energy Solutions (C2ES).** Outcomes of the U.N. Climate Change Conference. *Center for Climate and Energy Solutions (C2ES).* [Online] 2015. http://www.c2es.org/international/negotiations/cop21-paris/summary.
31. **Agency, United States Environmental Protection.** Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Section 202(a) of the Clean Air Act. *United States Environmental Protection Agency.* [Online] 2020. https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean.
32. **Federal Register.** Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles. [Online] 2018. https://www.federalregister.gov/documents/2018/04/13/2018-07364/mid-term-evaluation-of-greenhouse-gas-emissions-standards-for-model-year-2022-2025-light-duty.
33. **Administration, National Highway Traffic Safety.** SAFE: The Safer Affordable Fuel-Efficient 'SAFE' Vehicle Rule. *National Highway Traffic Safety Administration.* [Online] 2020. https://www.nhtsa.gov/corporate-average-fuel-economy/safe.
34. **United States Environmental Protection Agency.** SmartWay. [Online] 2017. https://www.epa.gov/smartway/learn-about-smartway.
35. **California Air Resources Board.** California's 2017 Climate Change Scoping Plan . [Online] 2017. https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017_es.pdf.
36. **Lawrence Berkeley National Laboratory.** California's Policies Can Significantly Cut Greenhouse Gas Emissions through 2030. *Lawrence Berkeley National Laboratory.* [Online] January 22, 2015.

http://newscenter.lbl.gov/2015/01/22/californias-policies-can-significantly-cut-greenhouse-gas-emissions-2030/.

37. **Ernest Orlando Lawrence Berkeley National Laboratory.** Modeling California policy impacts on greenhouse gas emissions. [Online] 2015. https://eaei.lbl.gov/sites/all/files/lbnl-7008e.pdf.
38. **California Air Resources Board.** Legal Disclaimer & User's Notice. [Online] April 2019. https://ww3.arb.ca.gov/cc/capandtrade/capandtrade/ct_reg_unofficial.pdf.
39. —. Climate Change Scoping Plan. [Online] 2014. https://ww3.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf.
40. —. Low Carbon Fuel Standard. [Online] December 2019. https://ww3.arb.ca.gov/fuels/lcfs/lcfs.htm.
41. **Association of Environmental Professionals.** *2018 CEQA California Environmental Quality Act.* 2018.
42. **South Coast Air Quality Management District.** Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans. [Online] http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2.
43. —. Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans. [Online] http://www.aqmd.gov/hb/2008/December/081231a.htm.
44. **California Air Pollution Control Officers Association (CAPCOA).** California Emissions Estimator Model (CalEEMod). [Online] September 2016. www.caleemod.com.
45. **California Natural Resources Agency.** Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97. [Online] December 2009.
46. *Minutes for the GHG CEQA Significance.* **South Coast Air Quality Managment District.** 2008.
47. **Urban Crossroads, Inc.** *Wildomar Crossroads Air Quality Impact Analysis Report.* 2022.
48. **State of California.** *2019 CEQA California Environmental Quality Act.* 2019.
49. **South Coast Air Quality Management District.** *Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group #13.* [Powerpoint] Diamond Bar : s.n., 2009.
50. **EPD Solutions, Inc.** *Wildomar Crossroads Traffic Impact Analysis.* 2022.
51. **County of Riverside.** *Greenhouse Gas Emissions Screening Tables.* San Bernardino : Atkins, 2012.
52. **Air Resources Board.** 2019 GHG Inventory. *California Greenhouse Gas Emission Inventory 2000-2017 Edition.* [Online] [Cited: September 19, 2019.] http://www.arb.ca.gov/cc/inventory/data/data.htm.

This page intentionally left blank

5 CERTIFICATIONS

The contents of this GHG study report represent an accurate depiction of the GHG impacts associated with the proposed Wildomar Crossroads Project. The information contained in this GHG report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

Haseeb Qureshi
Associate Principal
URBAN CROSSROADS, INC.
hqureshi@urbanxroads.com

EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

This page intentionally left blank

APPENDIX 3.1:

CALEEMOD CONSTRUCTION EMISSIONS MODEL OUTPUTS

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Wildomar Crossroads (Construction - Mitigated)

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.00	1000sqft	0.69	29,996.00	0
Other Non-Asphalt Surfaces	66.55	1000sqft	1.53	66,549.00	0
Parking Lot	477.00	Space	1.81	79,056.00	0
City Park	1.32	Acre	1.32	57,591.00	0
Fast Food Restaurant with Drive Thru	3.88	1000sqft	0.09	3,883.00	0
High Turnover (Sit Down Restaurant)	3.35	1000sqft	0.08	3,348.00	0
Apartments Mid Rise	150.00	Dwelling Unit	2.84	123,862.00	429
Strip Mall	5.09	1000sqft	0.12	5,087.00	0
Supermarket	23.10	1000sqft	0.53	23,104.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project area is 9.01 acres

Off-road Equipment - Hours are based on an 8-hour workday

Off-road Equipment - Hours are based on an 8-hour workday

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Off-road Equipment -

Off-road Equipment - Crawler Tractors used in lieu of Tractors/Loaders/Backhoes

Trips and VMT - CalEEMod only assumes Vendor Trips during Building Construction. The CalEEMod default trips were ratioed between each phase based on the number of days

Demolition -

Grading - For purposes of analysis, total acres graded per day is based on the equipment specific grading rates (CalEEMod Appendix A) and the equipment list

Architectural Coating - Rule 1113

Vehicle Trips - Construction run only

Woodstoves - Construction run only

Energy Use - Construction run only

Water And Wastewater - Construction run only

Solid Waste - Construction run only

Construction Off-road Equipment Mitigation - MM AQ-1: Tier 3 for all equipment operating at >150 HP during Site Preparation activities; MM AQ-2: Increase watering to 4 times per day

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblEnergyUse	LightingElect	741.44	0.00
tblEnergyUse	LightingElect	6.62	0.00
tblEnergyUse	LightingElect	6.62	0.00
tblEnergyUse	LightingElect	0.35	0.00
tblEnergyUse	LightingElect	5.61	0.00
tblEnergyUse	LightingElect	8.14	0.00
tblEnergyUse	NT24E	3,054.10	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblEnergyUse	NT24E	28.48	0.00
tblEnergyUse	NT24E	28.48	0.00
tblEnergyUse	NT24E	2.44	0.00
tblEnergyUse	NT24E	22.82	0.00
tblEnergyUse	NT24NG	6,030.00	0.00
tblEnergyUse	NT24NG	195.77	0.00
tblEnergyUse	NT24NG	195.77	0.00
tblEnergyUse	NT24NG	0.30	0.00
tblEnergyUse	NT24NG	6.61	0.00
tblEnergyUse	T24E	164.47	0.00
tblEnergyUse	T24E	11.06	0.00
tblEnergyUse	T24E	11.06	0.00
tblEnergyUse	T24E	4.09	0.00
tblEnergyUse	T24E	5.42	0.00
tblEnergyUse	T24NG	8,352.17	0.00
tblEnergyUse	T24NG	76.89	0.00
tblEnergyUse	T24NG	76.89	0.00
tblEnergyUse	T24NG	1.90	0.00
tblEnergyUse	T24NG	12.52	0.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	127.50	0.00
tblFireplaces	NumberNoFireplace	15.00	0.00
tblFireplaces	NumberWood	7.50	0.00
tblGrading	MaterialExported	0.00	38,761.00
tblLandUse	LandUseSquareFeet	190,800.00	79,056.00
tblLandUse	LandUseSquareFeet	57,586.32	57,591.00
tblLandUse	LandUseSquareFeet	150,000.00	123,862.00

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblLandUse	LotAcreage	4.29	1.81
tblLandUse	LotAcreage	3.95	2.84
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblSolidWaste	SolidWasteGenerationRate	69.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.11	0.00
tblSolidWaste	SolidWasteGenerationRate	44.69	0.00
tblSolidWaste	SolidWasteGenerationRate	39.87	0.00
tblSolidWaste	SolidWasteGenerationRate	5.34	0.00
tblSolidWaste	SolidWasteGenerationRate	130.28	0.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	60.00	43.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	78.80	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CC_TTP	64.40	0.00
tblVehicleTrips	CC_TTP	74.50	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CW_TTP	2.20	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	CW_TTP	16.60	0.00
tblVehicleTrips	CW_TTP	6.50	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	21.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	86.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	29.00	0.00
tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	PR_TP	45.00	0.00
tblVehicleTrips	PR_TP	34.00	0.00
tblVehicleTrips	ST_TR	4.91	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	616.12	0.00
tblVehicleTrips	ST_TR	122.40	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	ST_TR	177.62	0.00
tblVehicleTrips	SU_TR	4.09	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	472.58	0.00
tblVehicleTrips	SU_TR	142.64	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	SU_TR	166.47	0.00
tblVehicleTrips	WD_TR	5.44	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	470.95	0.00
tblVehicleTrips	WD_TR	112.18	0.00
tblVehicleTrips	WD_TR	44.32	0.00
tblVehicleTrips	WD_TR	106.78	0.00
tblWater	IndoorWaterUseRate	9,773,103.84	0.00
tblWater	IndoorWaterUseRate	1,177,710.80	0.00
tblWater	IndoorWaterUseRate	1,016,837.94	0.00
tblWater	IndoorWaterUseRate	377,029.13	0.00
tblWater	IndoorWaterUseRate	2,847,495.76	0.00
tblWater	OutdoorWaterUseRate	6,161,304.60	0.00
tblWater	OutdoorWaterUseRate	1,572,755.38	0.00
tblWater	OutdoorWaterUseRate	75,173.03	0.00
tblWater	OutdoorWaterUseRate	64,904.55	0.00
tblWater	OutdoorWaterUseRate	231,082.37	0.00
tblWater	OutdoorWaterUseRate	88,066.88	0.00
tblWoodstoves	NumberCatalytic	7.50	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWoodstoves	NumberNoncatalytic	7.50	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0315	0.3103	0.2324	4.7000e-004	0.0395	0.0146	0.0541	0.0126	0.0136	0.0262	0.0000	41.3781	41.3781	0.0112	1.8000e-004	41.7122
2023	0.3277	2.7268	3.1558	8.5200e-003	0.5315	0.1107	0.6422	0.1725	0.1037	0.2762	0.0000	773.3727	773.3727	0.0971	0.0384	787.2376
2024	0.5101	0.1058	0.1737	3.1000e-004	6.8000e-003	5.0800e-003	0.0119	1.8200e-003	4.7400e-003	6.5600e-003	0.0000	27.4370	27.4370	6.1400e-003	3.0000e-004	27.6813
Maximum	**0.5101**	**2.7268**	**3.1558**	**8.5200e-003**	**0.5315**	**0.1107**	**0.6422**	**0.1725**	**0.1037**	**0.2762**	**0.0000**	**773.3727**	**773.3727**	**0.0971**	**0.0384**	**787.2376**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0236	0.2505	0.2475	4.7000e-004	0.0119	0.0114	0.0233	3.7100e-003	0.0108	0.0145	0.0000	41.3781	41.3781	0.0112	1.8000e-004	41.7121
2023	0.3159	2.6564	3.2221	8.5200e-003	0.3983	0.1073	0.5056	0.1147	0.1010	0.2158	0.0000	773.3723	773.3723	0.0971	0.0384	787.2372
2024	0.5101	0.1058	0.1737	3.1000e-004	6.8000e-003	5.0800e-003	0.0119	1.8200e-003	4.7400e-003	6.5600e-003	0.0000	27.4370	27.4370	6.1400e-003	3.0000e-004	27.6813
Maximum	**0.5101**	**2.6564**	**3.2221**	**8.5200e-003**	**0.3983**	**0.1073**	**0.5056**	**0.1147**	**0.1010**	**0.2158**	**0.0000**	**773.3723**	**773.3723**	**0.0971**	**0.0384**	**787.2372**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.27**	**4.14**	**-2.29**	**0.00**	**27.84**	**5.04**	**23.64**	**35.67**	**4.46**	**23.35**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-1-2022**	**2-28-2023**	1.2440	1.0937
2	**3-1-2023**	**5-31-2023**	0.6529	0.6529
3	**6-1-2023**	**8-31-2023**	0.6523	0.6523
4	**9-1-2023**	**11-30-2023**	0.6463	0.6463
5	**12-1-2023**	**2-29-2024**	0.8200	0.8200
		Highest	1.2440	1.0937

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6923	0.0179	1.5540	8.0000e-005		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	2.5420	2.5420	2.4600e-003	0.0000	2.6036
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.6923**	**0.0179**	**1.5540**	**8.0000e-005**	**0.0000**	**8.6000e-003**	**8.6000e-003**	**0.0000**	**8.6000e-003**	**8.6000e-003**	**0.0000**	**2.5420**	**2.5420**	**2.4600e-003**	**0.0000**	**2.6036**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6923	0.0179	1.5540	8.0000e-005		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	2.5420	2.5420	2.4600e-003	0.0000	2.6036
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.6923**	**0.0179**	**1.5540**	**8.0000e-005**	**0.0000**	**8.6000e-003**	**8.6000e-003**	**0.0000**	**8.6000e-003**	**8.6000e-003**	**0.0000**	**2.5420**	**2.5420**	**2.4600e-003**	**0.0000**	**2.6036**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2022	12/28/2022	5	20	
2	Site Preparation	Site Preparation	12/29/2022	1/11/2023	5	10	
3	Grading	Grading	1/12/2023	2/8/2023	5	20	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4	Building Construction	Building Construction	2/9/2023	12/27/2023	5	230	
5	Paving	Paving	12/28/2023	1/24/2024	5	20	
6	Architectural Coating	Architectural Coating	1/25/2024	2/21/2024	5	20	

Acres of Grading (Site Preparation Phase): 35

Acres of Grading (Grading Phase): 50

Acres of Paving: 4.03

Residential Indoor: 250,821; Residential Outdoor: 83,607; Non-Residential Indoor: 53,133; Non-Residential Outdoor: 17,711; Striped Parking Area: 10,536 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	3	8.00	212	0.43
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	8.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	4.00	7.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	4.00	4,845.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	218.00	43.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	44.00	4.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.1000e-004	0.0000	7.1000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	**0.0264**	**0.2572**	**0.2059**	**3.9000e-004**	**7.1000e-004**	**0.0124**	**0.0131**	**1.1000e-004**	**0.0116**	**0.0117**	**0.0000**	**33.9902**	**33.9902**	**9.5500e-003**	**0.0000**	**34.2289**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	4.7000e-004	1.0000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1948	0.1948	0.0000	3.0000e-005	0.2040
Vendor	6.0000e-005	1.7800e-003	6.0000e-004	1.0000e-005	2.5000e-004	2.0000e-005	2.8000e-004	7.0000e-005	2.0000e-005	1.0000e-004	0.0000	0.7005	0.7005	1.0000e-005	1.0000e-004	0.7316
Worker	5.2000e-004	4.1000e-004	5.1100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3037	1.3037	3.0000e-005	4.0000e-005	1.3153
Total	**5.9000e-004**	**2.6600e-003**	**5.8100e-003**	**2.0000e-005**	**1.9600e-003**	**4.0000e-005**	**2.0100e-003**	**5.3000e-004**	**3.0000e-005**	**5.7000e-004**	**0.0000**	**2.1990**	**2.1990**	**4.0000e-005**	**1.7000e-004**	**2.2510**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.8000e-004	0.0000	1.8000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0201	0.2097	0.2154	3.9000e-004		9.7900e-003	9.7900e-003		9.2500e-003	9.2500e-003	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	**0.0201**	**0.2097**	**0.2154**	**3.9000e-004**	**1.8000e-004**	**9.7900e-003**	**9.9700e-003**	**3.0000e-005**	**9.2500e-003**	**9.2800e-003**	**0.0000**	**33.9902**	**33.9902**	**9.5500e-003**	**0.0000**	**34.2289**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	4.7000e-004	1.0000e-004	0.0000	6.0000e-005	1.0000e-005	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1948	0.1948	0.0000	3.0000e-005	0.2040
Vendor	6.0000e-005	1.7800e-003	6.0000e-004	1.0000e-005	2.5000e-004	2.0000e-005	2.8000e-004	7.0000e-005	2.0000e-005	1.0000e-004	0.0000	0.7005	0.7005	1.0000e-005	1.0000e-004	0.7316
Worker	5.2000e-004	4.1000e-004	5.1100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3037	1.3037	3.0000e-005	4.0000e-005	1.3153
Total	**5.9000e-004**	**2.6600e-003**	**5.8100e-003**	**2.0000e-005**	**1.9600e-003**	**4.0000e-005**	**2.0100e-003**	**5.3000e-004**	**3.0000e-005**	**5.7000e-004**	**0.0000**	**2.1990**	**2.1990**	**4.0000e-005**	**1.7000e-004**	**2.2510**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0366	0.0000	0.0366	0.0119	0.0000	0.0119	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4700e-003	0.0504	0.0200	6.0000e-005		2.1600e-003	2.1600e-003		1.9800e-003	1.9800e-003	0.0000	4.9975	4.9975	1.6200e-003	0.0000	5.0379
Total	**4.4700e-003**	**0.0504**	**0.0200**	**6.0000e-005**	**0.0366**	**2.1600e-003**	**0.0388**	**0.0119**	**1.9800e-003**	**0.0139**	**0.0000**	**4.9975**	**4.9975**	**1.6200e-003**	**0.0000**	**5.0379**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	9.0000e-005	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0350	0.0350	0.0000	1.0000e-005	0.0366
Worker	6.0000e-005	5.0000e-005	6.1000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1564	0.1564	0.0000	0.0000	0.1578
Total	**6.0000e-005**	**1.4000e-004**	**6.4000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1915**	**0.1915**	**0.0000**	**1.0000e-005**	**0.1944**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.5200e-003	0.0000	9.5200e-003	3.1000e-003	0.0000	3.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.8500e-003	0.0380	0.0256	6.0000e-005		1.5700e-003	1.5700e-003		1.4900e-003	1.4900e-003	0.0000	4.9975	4.9975	1.6200e-003	0.0000	5.0379
Total	**2.8500e-003**	**0.0380**	**0.0256**	**6.0000e-005**	**9.5200e-003**	**1.5700e-003**	**0.0111**	**3.1000e-003**	**1.4900e-003**	**4.5900e-003**	**0.0000**	**4.9975**	**4.9975**	**1.6200e-003**	**0.0000**	**5.0379**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	9.0000e-005	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0350	0.0350	0.0000	1.0000e-005	0.0366
Worker	6.0000e-005	5.0000e-005	6.1000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1564	0.1564	0.0000	0.0000	0.1578
Total	**6.0000e-005**	**1.4000e-004**	**6.4000e-004**	**0.0000**	**2.1000e-004**	**0.0000**	**2.1000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1915**	**0.1915**	**0.0000**	**1.0000e-005**	**0.1944**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0908	0.0000	0.0908	0.0417	0.0000	0.0417	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0153	0.1673	0.0731	2.3000e-004		7.0200e-003	7.0200e-003		6.4600e-003	6.4600e-003	0.0000	19.9785	19.9785	6.4600e-003	0.0000	20.1400
Total	**0.0153**	**0.1673**	**0.0731**	**2.3000e-004**	**0.0908**	**7.0200e-003**	**0.0978**	**0.0417**	**6.4600e-003**	**0.0482**	**0.0000**	**19.9785**	**19.9785**	**6.4600e-003**	**0.0000**	**20.1400**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.7000e-004	1.1000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1346	0.1346	0.0000	2.0000e-005	0.1406
Worker	2.3000e-004	1.7000e-004	2.2600e-003	1.0000e-005	7.9000e-004	0.0000	8.0000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6094	0.6094	2.0000e-005	2.0000e-005	0.6145
Total	**2.4000e-004**	**4.4000e-004**	**2.3700e-003**	**1.0000e-005**	**8.4000e-004**	**0.0000**	**8.5000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.7440**	**0.7440**	**2.0000e-005**	**4.0000e-005**	**0.7551**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0236	0.0000	0.0236	0.0109	0.0000	0.0109	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.1361	0.0992	2.3000e-004		5.5000e-003	5.5000e-003		5.2300e-003	5.2300e-003	0.0000	19.9785	19.9785	6.4600e-003	0.0000	20.1400
Total	**0.0102**	**0.1361**	**0.0992**	**2.3000e-004**	**0.0236**	**5.5000e-003**	**0.0291**	**0.0109**	**5.2300e-003**	**0.0161**	**0.0000**	**19.9785**	**19.9785**	**6.4600e-003**	**0.0000**	**20.1400**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.7000e-004	1.1000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1346	0.1346	0.0000	2.0000e-005	0.1406
Worker	2.3000e-004	1.7000e-004	2.2600e-003	1.0000e-005	7.9000e-004	0.0000	8.0000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6094	0.6094	2.0000e-005	2.0000e-005	0.6145
Total	**2.4000e-004**	**4.4000e-004**	**2.3700e-003**	**1.0000e-005**	**8.4000e-004**	**0.0000**	**8.5000e-004**	**2.2000e-004**	**0.0000**	**2.3000e-004**	**0.0000**	**0.7440**	**0.7440**	**2.0000e-005**	**4.0000e-005**	**0.7551**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0892	0.0000	0.0892	0.0363	0.0000	0.0363	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0259	0.2866	0.1477	4.4000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	38.4322	38.4322	0.0124	0.0000	38.7430
Total	**0.0259**	**0.2866**	**0.1477**	**4.4000e-004**	**0.0892**	**0.0114**	**0.1006**	**0.0363**	**0.0105**	**0.0469**	**0.0000**	**38.4322**	**38.4322**	**0.0124**	**0.0000**	**38.7430**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.1200e-003	0.2552	0.0671	1.3300e-003	0.0418	2.9200e-003	0.0447	0.0115	2.8000e-003	0.0143	0.0000	129.0422	129.0422	1.8200e-003	0.0203	135.1472
Vendor	4.0000e-005	1.3700e-003	5.5000e-004	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.6730	0.6730	1.0000e-005	1.0000e-004	0.7028
Worker	4.9000e-004	3.6000e-004	4.7100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2695	1.2695	3.0000e-005	3.0000e-005	1.2802
Total	**5.6500e-003**	**0.2570**	**0.0724**	**1.3500e-003**	**0.0437**	**2.9400e-003**	**0.0466**	**0.0120**	**2.8200e-003**	**0.0148**	**0.0000**	**130.9847**	**130.9847**	**1.8600e-003**	**0.0205**	**137.1302**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0232	0.0000	0.0232	9.4500e-003	0.0000	9.4500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0192	0.2474	0.1878	4.4000e-004		9.6100e-003	9.6100e-003		9.0900e-003	9.0900e-003	0.0000	38.4322	38.4322	0.0124	0.0000	38.7429
Total	**0.0192**	**0.2474**	**0.1878**	**4.4000e-004**	**0.0232**	**9.6100e-003**	**0.0328**	**9.4500e-003**	**9.0900e-003**	**0.0185**	**0.0000**	**38.4322**	**38.4322**	**0.0124**	**0.0000**	**38.7429**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.1200e-003	0.2552	0.0671	1.3300e-003	0.0418	2.9200e-003	0.0447	0.0115	2.8000e-003	0.0143	0.0000	129.0422	129.0422	1.8200e-003	0.0203	135.1472
Vendor	4.0000e-005	1.3700e-003	5.5000e-004	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.6730	0.6730	1.0000e-005	1.0000e-004	0.7028
Worker	4.9000e-004	3.6000e-004	4.7100e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2695	1.2695	3.0000e-005	3.0000e-005	1.2802
Total	**5.6500e-003**	**0.2570**	**0.0724**	**1.3500e-003**	**0.0437**	**2.9400e-003**	**0.0466**	**0.0120**	**2.8200e-003**	**0.0148**	**0.0000**	**130.9847**	**130.9847**	**1.8600e-003**	**0.0205**	**137.1302**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1925	1.7753	1.9907	3.3200e-003		0.0860	0.0860		0.0808	0.0808	0.0000	285.6613	285.6613	0.0696	0.0000	287.4010
Total	**0.1925**	**1.7753**	**1.9907**	**3.3200e-003**		**0.0860**	**0.0860**		**0.0808**	**0.0808**	**0.0000**	**285.6613**	**285.6613**	**0.0696**	**0.0000**	**287.4010**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3600e-003	0.1695	0.0675	8.6000e-004	0.0312	1.4100e-003	0.0327	9.0100e-003	1.3500e-003	0.0104	0.0000	83.1999	83.1999	8.4000e-004	0.0123	86.8870
Worker	0.0814	0.0603	0.7870	2.2900e-003	0.2756	1.3100e-003	0.2769	0.0732	1.2100e-003	0.0744	0.0000	212.1753	212.1753	5.2300e-003	5.5600e-003	213.9642
Total	**0.0867**	**0.2298**	**0.8546**	**3.1500e-003**	**0.3068**	**2.7200e-003**	**0.3095**	**0.0822**	**2.5600e-003**	**0.0847**	**0.0000**	**295.3752**	**295.3752**	**6.0700e-003**	**0.0179**	**300.8512**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1925	1.7753	1.9907	3.3200e-003		0.0860	0.0860		0.0808	0.0808	0.0000	285.6609	285.6609	0.0696	0.0000	287.4006
Total	**0.1925**	**1.7753**	**1.9907**	**3.3200e-003**		**0.0860**	**0.0860**		**0.0808**	**0.0808**	**0.0000**	**285.6609**	**285.6609**	**0.0696**	**0.0000**	**287.4006**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3600e-003	0.1695	0.0675	8.6000e-004	0.0312	1.4100e-003	0.0327	9.0100e-003	1.3500e-003	0.0104	0.0000	83.1999	83.1999	8.4000e-004	0.0123	86.8870
Worker	0.0814	0.0603	0.7870	2.2900e-003	0.2756	1.3100e-003	0.2769	0.0732	1.2100e-003	0.0744	0.0000	212.1753	212.1753	5.2300e-003	5.5600e-003	213.9642
Total	**0.0867**	**0.2298**	**0.8546**	**3.1500e-003**	**0.3068**	**2.7200e-003**	**0.3095**	**0.0822**	**2.5600e-003**	**0.0847**	**0.0000**	**295.3752**	**295.3752**	**6.0700e-003**	**0.0179**	**300.8512**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0300e-003	0.0102	0.0146	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	2.0027	2.0027	6.5000e-004	0.0000	2.0189
Paving	3.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3600e-003**	**0.0102**	**0.0146**	**2.0000e-005**		**5.1000e-004**	**5.1000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**2.0027**	**2.0027**	**6.5000e-004**	**0.0000**	**2.0189**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	1.4000e-004	5.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0673	0.0673	0.0000	1.0000e-005	0.0703
Worker	5.0000e-005	4.0000e-005	4.7000e-004	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1270	0.1270	0.0000	0.0000	0.1280
Total	**5.0000e-005**	**1.8000e-004**	**5.2000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1943**	**0.1943**	**0.0000**	**1.0000e-005**	**0.1983**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0300e-003	0.0102	0.0146	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	2.0027	2.0027	6.5000e-004	0.0000	2.0189
Paving	3.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.3600e-003**	**0.0102**	**0.0146**	**2.0000e-005**		**5.1000e-004**	**5.1000e-004**		**4.7000e-004**	**4.7000e-004**	**0.0000**	**2.0027**	**2.0027**	**6.5000e-004**	**0.0000**	**2.0189**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	1.4000e-004	5.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0673	0.0673	0.0000	1.0000e-005	0.0703
Worker	5.0000e-005	4.0000e-005	4.7000e-004	0.0000	1.6000e-004	0.0000	1.7000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1270	0.1270	0.0000	0.0000	0.1280
Total	**5.0000e-005**	**1.8000e-004**	**5.2000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1943**	**0.1943**	**0.0000**	**1.0000e-005**	**0.1983**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.8900e-003	0.0857	0.1316	2.1000e-004		4.2200e-003	4.2200e-003		3.8800e-003	3.8800e-003	0.0000	18.0239	18.0239	5.8300e-003	0.0000	18.1696
Paving	2.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0118**	**0.0857**	**0.1316**	**2.1000e-004**		**4.2200e-003**	**4.2200e-003**		**3.8800e-003**	**3.8800e-003**	**0.0000**	**18.0239**	**18.0239**	**5.8300e-003**	**0.0000**	**18.1696**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.2300e-003	4.9000e-004	1.0000e-005	2.3000e-004	1.0000e-005	2.4000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.5964	0.5964	1.0000e-005	9.0000e-005	0.6228
Worker	4.1000e-004	2.9000e-004	3.9700e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1152	1.1152	3.0000e-005	3.0000e-005	1.1241
Total	**4.5000e-004**	**1.5200e-003**	**4.4600e-003**	**2.0000e-005**	**1.7100e-003**	**2.0000e-005**	**1.7300e-003**	**4.6000e-004**	**2.0000e-005**	**4.8000e-004**	**0.0000**	**1.7115**	**1.7115**	**4.0000e-005**	**1.2000e-004**	**1.7469**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.8900e-003	0.0857	0.1316	2.1000e-004		4.2200e-003	4.2200e-003		3.8800e-003	3.8800e-003	0.0000	18.0239	18.0239	5.8300e-003	0.0000	18.1696
Paving	2.9500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0118**	**0.0857**	**0.1316**	**2.1000e-004**		**4.2200e-003**	**4.2200e-003**		**3.8800e-003**	**3.8800e-003**	**0.0000**	**18.0239**	**18.0239**	**5.8300e-003**	**0.0000**	**18.1696**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.2300e-003	4.9000e-004	1.0000e-005	2.3000e-004	1.0000e-005	2.4000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.5964	0.5964	1.0000e-005	9.0000e-005	0.6228
Worker	4.1000e-004	2.9000e-004	3.9700e-003	1.0000e-005	1.4800e-003	1.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.0000e-004	0.0000	1.1152	1.1152	3.0000e-005	3.0000e-005	1.1241
Total	**4.5000e-004**	**1.5200e-003**	**4.4600e-003**	**2.0000e-005**	**1.7100e-003**	**2.0000e-005**	**1.7300e-003**	**4.6000e-004**	**2.0000e-005**	**4.8000e-004**	**0.0000**	**1.7115**	**1.7115**	**4.0000e-005**	**1.2000e-004**	**1.7469**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4940					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4100e-003	0.0163	0.0241	4.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	3.4043	3.4043	1.9000e-004	0.0000	3.4091
Total	**0.4964**	**0.0163**	**0.0241**	**4.0000e-005**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**3.4043**	**3.4043**	**1.9000e-004**	**0.0000**	**3.4091**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.3700e-003	5.4000e-004	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.6626	0.6626	1.0000e-005	1.0000e-004	0.6920
Worker	1.3300e-003	9.4000e-004	0.0129	4.0000e-005	4.8400e-003	2.0000e-005	4.8600e-003	1.2800e-003	2.0000e-005	1.3000e-003	0.0000	3.6346	3.6346	8.0000e-005	9.0000e-005	3.6637
Total	**1.3700e-003**	**2.3100e-003**	**0.0135**	**5.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3500e-003**	**3.0000e-005**	**1.3800e-003**	**0.0000**	**4.2973**	**4.2973**	**9.0000e-005**	**1.9000e-004**	**4.3557**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Architectural Coating - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4940					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4100e-003	0.0163	0.0241	4.0000e-005		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	3.4043	3.4043	1.9000e-004	0.0000	3.4091
Total	**0.4964**	**0.0163**	**0.0241**	**4.0000e-005**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**3.4043**	**3.4043**	**1.9000e-004**	**0.0000**	**3.4091**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.3700e-003	5.4000e-004	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.6626	0.6626	1.0000e-005	1.0000e-004	0.6920
Worker	1.3300e-003	9.4000e-004	0.0129	4.0000e-005	4.8400e-003	2.0000e-005	4.8600e-003	1.2800e-003	2.0000e-005	1.3000e-003	0.0000	3.6346	3.6346	8.0000e-005	9.0000e-005	3.6637
Total	**1.3700e-003**	**2.3100e-003**	**0.0135**	**5.0000e-005**	**5.0900e-003**	**3.0000e-005**	**5.1200e-003**	**1.3500e-003**	**3.0000e-005**	**1.3800e-003**	**0.0000**	**4.2973**	**4.2973**	**9.0000e-005**	**1.9000e-004**	**4.3557**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Fast Food Restaurant with Drive Thru	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Supermarket	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant with Drive	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Strip Mall	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Supermarket	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant with Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
High Turnover (Sit Down Restaurant)	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Strip Mall	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Supermarket	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6923	0.0179	1.5540	8.0000e-005		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	2.5420	2.5420	2.4600e-003	0.0000	2.6036
Unmitigated	0.6923	0.0179	1.5540	8.0000e-005		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	2.5420	2.5420	2.4600e-003	0.0000	2.6036

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0576					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5875					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0472	0.0179	1.5540	8.0000e-005		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	2.5420	2.5420	2.4600e-003	0.0000	2.6036
Total	**0.6923**	**0.0179**	**1.5540**	**8.0000e-005**		**8.6000e-003**	**8.6000e-003**		**8.6000e-003**	**8.6000e-003**	**0.0000**	**2.5420**	**2.5420**	**2.4600e-003**	**0.0000**	**2.6036**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0576					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5875					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0472	0.0179	1.5540	8.0000e-005		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	2.5420	2.5420	2.4600e-003	0.0000	2.6036
Total	**0.6923**	**0.0179**	**1.5540**	**8.0000e-005**		**8.6000e-003**	**8.6000e-003**		**8.6000e-003**	**8.6000e-003**	**0.0000**	**2.5420**	**2.5420**	**2.4600e-003**	**0.0000**	**2.6036**

7.0 Water Detail

7.1 Mitigation Measures Water

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Supermarket	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0 / 0	0.0000	0.0000	0.0000	0.0000
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0 / 0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0 / 0	0.0000	0.0000	0.0000	0.0000
Supermarket	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Wildomar Crossroads (Construction - Mitigated) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000
City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant with Drive Thru	0	0.0000	0.0000	0.0000	0.0000
High Turnover (Sit Down Restaurant)	0	0.0000	0.0000	0.0000	0.0000
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Supermarket	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

This page intentionally left blank

APPENDIX 3.2:

CALEEMOD OPERATIONAL EMISSIONS MODEL OUTPUTS

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Wildomar Crossroads (Operations)

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	30.00	1000sqft	0.69	29,996.00	0
Other Non-Asphalt Surfaces	66.55	1000sqft	1.53	66,549.00	0
Parking Lot	477.00	Space	1.81	79,056.00	0
City Park	1.32	Acre	1.32	57,591.00	0
Fast Food Restaurant w/o Drive Thru	1.13	1000sqft	0.03	1,133.00	0
Fast Food Restaurant with Drive Thru	2.75	1000sqft	0.06	2,750.00	0
High Turnover (Sit Down Restaurant)	3.35	1000sqft	0.08	3,348.00	0
Apartments Mid Rise	150.00	Dwelling Unit	2.84	123,862.00	429
Strip Mall	5.09	1000sqft	0.12	5,087.00	0
Supermarket	23.10	1000sqft	0.53	23,104.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	390.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Total Project area is 9.01 acres. For purposes of analysis, the Coffee/Donut Shop will be modeled as Fast-Doof Restaurant without Drive-Thru

Construction Phase - Operations run only

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Operations run only

Vehicle Trips - Trip characteristics based on information provided in the Trip Generation

Woodstoves - Rule 445

Water And Wastewater - For purposes of analysis, the Coffee/Shop (modeled as Fast-Food Restaurant without Drive-Thru) is assumed to have the same Indoor/Outdoor water usage as a Fast-Food Restaurant with Drive-Thru

Solid Waste - For purposes of analysis, the Coffee/Shop (modeled as Fast-Food Restaurant without Drive-Thru) is assumed to have the same Solid Waste Generation Rate as a Fast-Food Restaurant with Drive-Thru

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	PhaseEndDate	12/28/2022	11/30/2022
tblFireplaces	NumberGas	127.50	150.00
tblFireplaces	NumberNoFireplace	15.00	0.00
tblFireplaces	NumberWood	7.50	0.00
tblLandUse	LandUseSquareFeet	190,800.00	79,056.00
tblLandUse	LandUseSquareFeet	57,586.32	57,591.00
tblLandUse	LandUseSquareFeet	150,000.00	123,862.00
tblLandUse	LotAcreage	4.29	1.81
tblLandUse	LotAcreage	3.95	2.84
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblSolidWaste	SolidWasteGenerationRate	13.02	31.68
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TL	8.40	2.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	ST_TR	4.91	4.57
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	42.04	87.48
tblVehicleTrips	ST_TR	177.62	112.76
tblVehicleTrips	SU_TR	4.09	3.77
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	20.43	87.48
tblVehicleTrips	SU_TR	166.47	102.42
tblVehicleTrips	WD_TR	5.44	4.54
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	346.23	533.98
tblVehicleTrips	WD_TR	470.95	467.64
tblVehicleTrips	WD_TR	112.18	107.23
tblVehicleTrips	WD_TR	44.32	87.48
tblVehicleTrips	WD_TR	106.78	93.84
tblWater	IndoorWaterUseRate	342,993.10	834,717.71
tblWater	OutdoorWaterUseRate	21,893.18	53,279.85
tblWoodstoves	NumberCatalytic	7.50	0.00
tblWoodstoves	NumberNoncatalytic	7.50	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6959	0.0490	1.5673	2.8000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	38.5626	38.5626	3.1500e-003	6.6000e-004	38.8382
Energy	0.0247	0.2183	0.1421	1.3500e-003		0.0171	0.0171		0.0171	0.0171	0.0000	573.9792	573.9792	0.0325	7.8500e-003	577.1318
Mobile	1.8271	1.9050	11.9916	0.0204	2.0278	0.0184	2.0461	0.5417	0.0172	0.5589	0.0000	1,917.0460	1,917.0460	0.1703	0.1311	1,960.3594
Waste						0.0000	0.0000		0.0000	0.0000	62.5131	0.0000	62.5131	3.6944	0.0000	154.8736
Water						0.0000	0.0000		0.0000	0.0000	4.9758	52.4227	57.3985	0.5155	0.0126	74.0414
Total	**2.5478**	**2.1723**	**13.7010**	**0.0220**	**2.0278**	**0.0465**	**2.0743**	**0.5417**	**0.0454**	**0.5871**	**67.4889**	**2,582.0104**	**2,649.4993**	**4.4159**	**0.1522**	**2,805.2444**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6959	0.0490	1.5673	2.8000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	38.5626	38.5626	3.1500e-003	6.6000e-004	38.8382
Energy	0.0247	0.2183	0.1421	1.3500e-003		0.0171	0.0171		0.0171	0.0171	0.0000	573.9792	573.9792	0.0325	7.8500e-003	577.1318
Mobile	1.8271	1.9050	11.9916	0.0204	2.0278	0.0184	2.0461	0.5417	0.0172	0.5589	0.0000	1,917.0460	1,917.0460	0.1703	0.1311	1,960.3594
Waste						0.0000	0.0000		0.0000	0.0000	62.5131	0.0000	62.5131	3.6944	0.0000	154.8736
Water						0.0000	0.0000		0.0000	0.0000	4.9758	52.4227	57.3985	0.5155	0.0126	74.0414
Total	**2.5478**	**2.1723**	**13.7010**	**0.0220**	**2.0278**	**0.0465**	**2.0743**	**0.5417**	**0.0454**	**0.5871**	**67.4889**	**2,582.0104**	**2,649.4993**	**4.4159**	**0.1522**	**2,805.2444**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2022	11/30/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Grading Phase): 0

Acres of Paving: 4.03

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.8271	1.9050	11.9916	0.0204	2.0278	0.0184	2.0461	0.5417	0.0172	0.5589	0.0000	1,917.0460	1,917.0460	0.1703	0.1311	1,960.3594
Unmitigated	1.8271	1.9050	11.9916	0.0204	2.0278	0.0184	2.0461	0.5417	0.0172	0.5589	0.0000	1,917.0460	1,917.0460	0.1703	0.1311	1,960.3594

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	681.00	685.50	565.50	2,272,894	2,272,894
City Park	0.00	0.00	0.00		
Fast Food Restaurant w/o Drive Thru	605.00	788.57	566.50	435,000	435,000
Fast Food Restaurant with Drive Thru	1,286.00	1,694.33	1299.60	570,352	570,352
High Turnover (Sit Down Restaurant)	359.00	409.80	477.56	250,404	250,404
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	445.00	445.00	445.00	479,466	479,466
Supermarket	2,168.00	2,605.21	2366.31	1,353,504	1,353,504
Total	5,544.00	6,628.40	5,720.47	5,361,620	5,361,620

4.3 Trip Type Information

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive	16.60	2.00	6.90	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	16.60	2.00	6.90	2.20	78.80	19.00	29	21	50
High Turnover (Sit Down	16.60	2.00	6.90	8.50	72.50	19.00	37	20	43
Other Asphalt Surfaces	16.60	2.00	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	2.00	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	2.00	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	2.00	6.90	16.60	64.40	19.00	45	40	15
Supermarket	16.60	2.00	6.90	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
City Park	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant w/o Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Fast Food Restaurant with Drive Thru	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
High Turnover (Sit Down Restaurant)	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Other Non-Asphalt Surfaces	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Parking Lot	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Strip Mall	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189
Supermarket	0.537845	0.056225	0.173186	0.138405	0.025906	0.007191	0.011447	0.018769	0.000611	0.000309	0.023821	0.001097	0.005189

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	329.4608	329.4608	0.0278	3.3700e-003	331.1604
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	329.4608	329.4608	0.0278	3.3700e-003	331.1604
NaturalGas Mitigated	0.0247	0.2183	0.1421	1.3500e-003		0.0171	0.0171		0.0171	0.0171	0.0000	244.5184	244.5184	4.6900e-003	4.4800e-003	245.9714
NaturalGas Unmitigated	0.0247	0.2183	0.1421	1.3500e-003		0.0171	0.0171		0.0171	0.0171	0.0000	244.5184	244.5184	4.6900e-003	4.4800e-003	245.9714

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.15733e+006	0.0116	0.0994	0.0423	6.3000e-004		8.0400e-003	8.0400e-003		8.0400e-003	8.0400e-003	0.0000	115.1231	115.1231	2.2100e-003	2.1100e-003	115.8072
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	308924	1.6700e-003	0.0151	0.0127	9.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	16.4854	16.4854	3.2000e-004	3.0000e-004	16.5833
Fast Food Restaurant with Drive Thru	749815	4.0400e-003	0.0368	0.0309	2.2000e-004		2.7900e-003	2.7900e-003		2.7900e-003	2.7900e-003	0.0000	40.0130	40.0130	7.7000e-004	7.3000e-004	40.2508
High Turnover (Sit Down Restaurant)	912866	4.9200e-003	0.0448	0.0376	2.7000e-004		3.4000e-003	3.4000e-003		3.4000e-003	3.4000e-003	0.0000	48.7140	48.7140	9.3000e-004	8.9000e-004	49.0035
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	11191.4	6.0000e-005	5.5000e-004	4.6000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5972	0.5972	1.0000e-005	1.0000e-005	0.6008
Supermarket	441980	2.3800e-003	0.0217	0.0182	1.3000e-004		1.6500e-003	1.6500e-003		1.6500e-003	1.6500e-003	0.0000	23.5857	23.5857	4.5000e-004	4.3000e-004	23.7259
Total		**0.0247**	**0.2183**	**0.1421**	**1.3400e-003**		**0.0171**	**0.0171**		**0.0171**	**0.0171**	**0.0000**	**244.5184**	**244.5184**	**4.6900e-003**	**4.4700e-003**	**245.9714**

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.15733e+006	0.0116	0.0994	0.0423	6.3000e-004		8.0400e-003	8.0400e-003		8.0400e-003	8.0400e-003	0.0000	115.1231	115.1231	2.2100e-003	2.1100e-003	115.8072
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	308924	1.6700e-003	0.0151	0.0127	9.0000e-005		1.1500e-003	1.1500e-003		1.1500e-003	1.1500e-003	0.0000	16.4854	16.4854	3.2000e-004	3.0000e-004	16.5833
Fast Food Restaurant with Drive Thru	749815	4.0400e-003	0.0368	0.0309	2.2000e-004		2.7900e-003	2.7900e-003		2.7900e-003	2.7900e-003	0.0000	40.0130	40.0130	7.7000e-004	7.3000e-004	40.2508
High Turnover (Sit Down Restaurant)	912866	4.9200e-003	0.0448	0.0376	2.7000e-004		3.4000e-003	3.4000e-003		3.4000e-003	3.4000e-003	0.0000	48.7140	48.7140	9.3000e-004	8.9000e-004	49.0035
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	11191.4	6.0000e-005	5.5000e-004	4.6000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5972	0.5972	1.0000e-005	1.0000e-005	0.6008
Supermarket	441980	2.3800e-003	0.0217	0.0182	1.3000e-004		1.6500e-003	1.6500e-003		1.6500e-003	1.6500e-003	0.0000	23.5857	23.5857	4.5000e-004	4.3000e-004	23.7259
Total		**0.0247**	**0.2183**	**0.1421**	**1.3400e-003**		**0.0171**	**0.0171**		**0.0171**	**0.0171**	**0.0000**	**244.5184**	**244.5184**	**4.6900e-003**	**4.4700e-003**	**245.9714**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	594002	105.3435	8.8900e-003	1.0800e-003	105.8870
City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	52299.3	9.2750	7.8000e-004	9.0000e-005	9.3229
Fast Food Restaurant with Drive Thru	126940	22.5122	1.9000e-003	2.3000e-004	22.6284
High Turnover (Sit Down Restaurant)	154544	27.4076	2.3100e-003	2.8000e-004	27.5490
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	27669.6	4.9071	4.1000e-004	5.0000e-005	4.9324
Strip Mall	61756.2	10.9522	9.2000e-004	1.1000e-004	11.0087
Supermarket	840524	149.0631	0.0126	1.5300e-003	149.8321
Total		**329.4608**	**0.0278**	**3.3700e-003**	**331.1604**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	594002	105.3435	8.8900e-003	1.0800e-003	105.8870
City Park	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	52299.3	9.2750	7.8000e-004	9.0000e-005	9.3229
Fast Food Restaurant with Drive Thru	126940	22.5122	1.9000e-003	2.3000e-004	22.6284
High Turnover (Sit Down Restaurant)	154544	27.4076	2.3100e-003	2.8000e-004	27.5490
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	27669.6	4.9071	4.1000e-004	5.0000e-005	4.9324
Strip Mall	61756.2	10.9522	9.2000e-004	1.1000e-004	11.0087
Supermarket	840524	149.0631	0.0126	1.5300e-003	149.8321
Total		**329.4608**	**0.0278**	**3.3700e-003**	**331.1604**

6.0 Area Detail

6.1 Mitigation Measures Area

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6959	0.0490	1.5673	2.8000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	38.5626	38.5626	3.1500e-003	6.6000e-004	38.8382
Unmitigated	0.6959	0.0490	1.5673	2.8000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	38.5626	38.5626	3.1500e-003	6.6000e-004	38.8382

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0576					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5875					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.6400e-003	0.0311	0.0132	2.0000e-004		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	36.0206	36.0206	6.9000e-004	6.6000e-004	36.2346
Landscaping	0.0472	0.0179	1.5540	8.0000e-005		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	2.5420	2.5420	2.4600e-003	0.0000	2.6036
Total	**0.6959**	**0.0490**	**1.5673**	**2.8000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**38.5626**	**38.5626**	**3.1500e-003**	**6.6000e-004**	**38.8382**

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0576					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5875					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.6400e-003	0.0311	0.0132	2.0000e-004		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	36.0206	36.0206	6.9000e-004	6.6000e-004	36.2346
Landscaping	0.0472	0.0179	1.5540	8.0000e-005		8.6000e-003	8.6000e-003		8.6000e-003	8.6000e-003	0.0000	2.5420	2.5420	2.4600e-003	0.0000	2.6036
Total	**0.6959**	**0.0490**	**1.5673**	**2.8000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**38.5626**	**38.5626**	**3.1500e-003**	**6.6000e-004**	**38.8382**

7.0 Water Detail

7.1 Mitigation Measures Water

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	57.3985	0.5155	0.0126	74.0414
Unmitigated	57.3985	0.5155	0.0126	74.0414

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	9.7731 / 6.1613	37.8084	0.3214	7.8700e-003	48.1897
City Park	0 / 1.57276	3.0988	2.6000e-004	3.0000e-005	3.1148
Fast Food Restaurant w/o Drive Thru	0.834718 / 0.0532798	2.2973	0.0274	6.6000e-004	3.1792
Fast Food Restaurant with Drive Thru	0.834718 / 0.0532798	2.2973	0.0274	6.6000e-004	3.1792
High Turnover (Sit Down Restaurant)	1.01684 / 0.0649046	2.7986	0.0333	8.1000e-004	3.8728
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.377029 / 0.231082	1.4456	0.0124	3.0000e-004	1.8460
Supermarket	2.8475 / 0.0880669	7.6524	0.0934	2.2600e-003	10.6597
Total		**57.3985**	**0.5155**	**0.0126**	**74.0414**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	9.7731 / 6.1613	37.8084	0.3214	7.8700e-003	48.1897
City Park	0 / 1.57276	3.0988	2.6000e-004	3.0000e-005	3.1148
Fast Food Restaurant w/o Drive Thru	0.834718 / 0.0532798	2.2973	0.0274	6.6000e-004	3.1792
Fast Food Restaurant with Drive Thru	0.834718 / 0.0532798	2.2973	0.0274	6.6000e-004	3.1792
High Turnover (Sit Down Restaurant)	1.01684 / 0.0649046	2.7986	0.0333	8.1000e-004	3.8728
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.377029 / 0.231082	1.4456	0.0124	3.0000e-004	1.8460
Supermarket	2.8475 / 0.0880669	7.6524	0.0934	2.2600e-003	10.6597
Total		**57.3985**	**0.5155**	**0.0126**	**74.0414**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Wildomar Crossroads (Operations) - Riverside-South Coast County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	62.5131	3.6944	0.0000	154.8736
Unmitigated	62.5131	3.6944	0.0000	154.8736

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	69	14.0064	0.8278	0.0000	34.7002
City Park	0.11	0.0223	1.3200e-003	0.0000	0.0553
Fast Food Restaurant w/o Drive Thru	31.68	6.4308	0.3801	0.0000	15.9319
Fast Food Restaurant with Drive Thru	31.68	6.4308	0.3801	0.0000	15.9319
High Turnover (Sit Down Restaurant)	39.87	8.0933	0.4783	0.0000	20.0507
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	5.34	1.0840	0.0641	0.0000	2.6855
Supermarket	130.28	26.4457	1.5629	0.0000	65.5180
Total		**62.5131**	**3.6944**	**0.0000**	**154.8735**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	69	14.0064	0.8278	0.0000	34.7002
City Park	0.11	0.0223	1.3200e-003	0.0000	0.0553
Fast Food Restaurant w/o Drive Thru	31.68	6.4308	0.3801	0.0000	15.9319
Fast Food Restaurant with Drive Thru	31.68	6.4308	0.3801	0.0000	15.9319
High Turnover (Sit Down Restaurant)	39.87	8.0933	0.4783	0.0000	20.0507
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	5.34	1.0840	0.0641	0.0000	2.6855
Supermarket	130.28	26.4457	1.5629	0.0000	65.5180
Total		**62.5131**	**3.6944**	**0.0000**	**154.8735**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

This page intentionally left blank

Appendix 11

Phase I Environmental Site Assessment

July 22, 2021

Project No. 13158.002

Sage Investco
4340 Von Karman Avenue, #110
Newport Beach, CA 92660

Attention: Mr. Ralph Deppisch & Mr. Patrick Charriou

Subject: Phase I Environmental Site Assessment
APNs 376-410-015, 376-410-016, 376-410-017, 376-410-021
Northwest Corner of Clinton Keith Road and Wildomar Trail
Wildomar, California 92595

Leighton & Associates, Inc. (Leighton) is pleased to present this copy of the Phase I Environmental Site Assessment for the Site in Wildomar, Riverside County, California, including Assessor Parcel Numbers (APNs): 376-410-015, 376-410-016, 376-410-017, 376-410-021. Leighton declares that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 Code of Federal Regulations (CFR) 312, and the ASTM International E1527-13.

Leighton has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject site. Leighton has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

If you have questions regarding this report, please contact us. We appreciate the opportunity to be of service to SAGE INVESTCO.

Respectfully submitted,

LEIGHTON & ASSOCIATES, INC.

Robert Hansen, PG
Project Geologist

Tracy Roberts
Staff Environmental Geologist

Distribution: Addressee

PHASE I ENVIRONMENTAL SITE ASSESSMENT

NORTHWEST CORNER OF CLINTON KEITH ROAD AND WILDOMAR TRAIL
WILDOMAR, CALIFORNIA 92595
APNS: 376-410-015, 376-410-016, 376-410-017 & 376-410-021



Prepared for:

SAGE INVESTCO

4340 VON KARMAN AVENUE, #110
NEWPORT BEACH, CA 92595

PROJECT NO. 13158.002

July 22, 2021

TABLE OF CONTENTS

Section Page
1.0 INTRODUCTION 1
1.1 Authorization 1
1.2 Purpose 1
1.3 Scope of Work 1
1.4 Significant Assumptions 2
1.5 Limitations and Exceptions 2
1.6 Special Terms and Conditions 3
1.7 User Reliance 3
2.0 SITE DESCRIPTION 4
2.1 Location and Legal Description 4
2.2 Property and Vicinity General Characteristics 4
2.3 Current Use of the Subject Property 4
2.4 Descriptions of Structures, Roads and Other Improvements on the Property 4
2.5 Current Uses of Adjoining Properties 5
3.0 USER PROVIDED INFORMATION 6
3.1 Environmental Liens or Activity and Use Limitations 6
3.2 Specialized Knowledge 6
3.3 Commonly Known or Reasonably Ascertainable Information 6
3.4 Valuation Reduction for Environmental Issues 6
3.5 Owner, Property Manager, and Occupant Information 6
3.6 Reason for Performing Phase I ESA 6
3.7 Other 6
4.0 RECORDS REVIEW 7
4.1 Physical Setting Source(s) 7
4.1.1 Topography 7
4.1.2 Surface Water 7
4.1.3 Shallow Soils 7
4.1.4 Geology / Hydrogeology (Groundwater Depth and Flow Direction) 7
4.2 Standard Environmental Record Sources 8
4.2.1 Subject Property 8
4.2.2 Offsite 8
4.2.3 Regulatory Agency Contacts 10
4.2.4 Radon 13
4.2.6 Vapor Encroachment 13
4.3 Historical Use Information on the Property 14
5.0 SITE RECONNAISSANCE 17
5.1 Methodology and Limiting Conditions 17
5.2 General Property Setting 17
5.3 Exterior and Interior Observations 17
5.3.1 Hazardous Substances, Drums, and Other Chemical Containers 17
5.3.2 Storage Tanks 18
5.3.3 Polychlorinated Biphenyls (PCBs) 18

5.3.4 Waste Disposal....18
5.3.5 Dumping....18
5.3.6 Pits, Ponds, Lagoons, Septic Systems, Wastewater, Drains, Cisterns, and Sumps....18
5.3.7 Pesticide Use....19
5.3.8 Staining, Discolored Soils, Corrosion....19
5.3.9 Stressed Vegetation....19
5.3.10 Unusual Odors....19
5.3.11 Onsite Wells....19
5.3.12 Other....19
6.0 INTERVIEWS....20
6.1 Interview with Owner....20
6.2 Interview with Property Manager....20
6.3 Interviews with Occupants....20
6.4 Interviews with Local Government Officials....20
6.5 Interviews with Others....20
7.0 FINDINGS....21
7.1 Onsite....21
7.2 Offsite....22
8.0 OPINION & CONCLUSIONS....23
8.1 Onsite....23
8.2 Offsite....23
8.3 Data Gaps....23
8.4 Other....24
9.0 DEVIATIONS....25
10.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS....25
10.1 Corporate....25
10.2 Individual....25
10.3 Environmental Professional Statement....25

List of Accompanying Illustrations and Appendices

Figure 1 - Site Location Map
Figure 2 - Site and Adjoining Properties Map

Appendix A - References
Appendix B - Site Reconnaissance Photos
Appendix C - Phase I Owner and User Questionnaires
Appendix D - Environmental Lien Report
Appendix E - Environmental Database Search & Physical Settings Reports
Appendix F - Local and Regional Regulatory Agency Records
Appendix G - Historical Site Usage Sources
Appendix H - GBA Geoenvironmental Report

1.0 INTRODUCTION

1.1 Authorization

Leighton & Associates, Inc. (Leighton) performed a Phase I Environmental Site Assessment (ESA) for the subject property (Site) located in Wildomar, California (Site Location Map – **Figure 1**). This work was completed in general accordance with our authorized agreement with Sage Investco (Client).

1.2 Purpose

The purpose of the Phase I ESA was to identify recognized environmental conditions (RECs), historical RECs (HRECs), or controlled RECs (CRECs) in connection with the Site. The assessment was conducted in general accordance with ASTM E1527-13 guidelines (ASTM E1527-13, 2013).

According to ASTM E1527-13, RECs are defined as "*the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not RECs."* De minimis conditions are defined by ASTM 1527-13 as *"a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions."*

According to ASTM E1527-13, HRECs are defined as "*a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.*"

According to ASTM E1527-13, CRECs are defined as "*a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.*"

1.3 Scope of Work

The scope of work was performed in accordance with the Leighton's proposal (TE21-126E), and included the following tasks:

- A reconnaissance-level visit of the Site for evidence of existing or potential release(s) of hazardous materials and/or petroleum products;
- A review of records (including previous environmental reports, selected governmental databases, and historical Site usage information);

- Interviews; and
- Preparation of this report presenting our findings.

1.4 Significant Assumptions

Leighton assumes that the purpose of this Phase I ESA is to provide appropriate inquiry into the previous ownership and use of the Site so that the Client may qualify for the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) landowner liability protections as defined in CERCLA, 42 USC §9601(35) (B). Leighton also assumes that the information provided by the Client and its agents, regulatory database search provider, and regulatory agencies is true and reliable.

1.5 Limitations and Exceptions

This Phase I ESA was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions.

The observations and conclusions presented in this report are professional opinions based on the scope of activities, work schedule, and information obtained during the assessment described herein. Opinions presented herein apply to property conditions existing at the time of our study, and cannot necessarily be taken to apply to property conditions or changes that we are not aware of or have not had the opportunity to evaluate. It must be recognized that conclusions drawn from these data are limited to the amount, type, distribution, and integrity of the information collected at the time of the investigation, and the methods utilized to collect and evaluate the data. Although Leighton has taken steps to obtain true copies of available information, we make no representation or warranty with respect to the accuracy or completeness of the information provided by others.

This practice does not address whether requirements, in addition to all appropriate inquiry have been met in order to qualify for the landowner liability protections including the continuing obligation not to impede the integrity and effectiveness of activity and use limitations, or the duty to take reasonable steps to prevent releases, or the duty to comply with legally required release reporting obligations. Users should also be aware that there are likely to be other legal obligations with regard to hazardous substances or petroleum products discovered on the subject site that are not addressed in this practice, and that may pose risks of civil and/or criminal sanctions for non-compliance.

The Client is referred to **Appendix H** regarding important information provided by Geoprofessional Business Association (GBA) on geoenvironmental studies and reports.

1.6 Special Terms and Conditions

The scope of work for this Phase I ESA did not include testing of electrical equipment for the presence of polychlorinated biphenyls (PCBs) or collection of other environmental samples such as air, water, building materials, paint, or other media; assessment of natural hazards such as naturally occurring asbestos, radon gas or methane gas; assessment of the potential presence of radionuclides; or assessment of nonchemical hazards such as the potential for damage from earthquakes or floods, or the presence of endangered species or wildlife habitats. This Phase I also did not include an extensive assessment of the environmental compliance status of the subject site or of businesses operating at the subject site, or a health-based risk assessment.

1.7 User Reliance

This report is for the exclusive use of Sage Investco. Use of this report by any other party shall be at such party's sole risk.

2.0 SITE DESCRIPTION

2.1 Location and Legal Description

The Site is a square shaped property that is approximately 8.96 acres. It is located at the northwest corner of Clinton Keith Road and Wildomar Trail in Wildomar, California (Site Location Map - **Figure 1**). The Site consists of the following four (4) Riverside County Assessor Parcel Numbers (APNs):

- APN: 376-410-015
- APN: 376-410-016
- APN: 376-410-017
- APN: 376-410-021

Legal description of the afore-mentioned APNs is provided in **Appendix D**.

One street address was identified for an existing residence on the Site: 24850 Catt Rd. Three additional addresses are indicated on the environmental lien search reports (**Appendix D**): 24900, 23940 & 23980 Catt Road.

2.2 Property and Vicinity General Characteristics

The property is largely vacant, and the general vicinity is developed with single-family residences, commercial developments, and some vacant properties also exist..

2.3 Current Use of the Subject Property

The Site is approximately 8.96 acres total in area, and consists of one, older single-family residence with an attached garage, another dilapidated rural residential structure, a vacant metal shed, and vacant undeveloped land.

2.4 Descriptions of Structures, Roads and Other Improvements on the Property

The Site is mostly vacant, undeveloped land; however, it has one occupied single-family residential structure with an attached garage located on the southwest portion of the Site, a dilapidated rural residential structure on the west-center portion of the Site, a vacant metal shed on the northwest portion of the Site, and a small concrete foundation near the west-center portion of the Site. There are no paved roads on the Site. Several dirt roads transect the Site.

The following utilities would provide future services to the Site:

Natural Gas:	The Southern California Gas Company
Source of Potable Water:	Elsinore Valley Municipal Water District
Electric:	Southern California Edison
Sewage Disposal:	Elsinore Valley Municipal Water District
Waste Disposal:	Waste Management of the Inland Empire

2.5 Current Uses of Adjoining Properties

Properties adjoining the Site are described in the table below. Photos of adjoining properties are provided in **Appendix B**. The locations, orientations and designations of the photos referenced below are shown on **Figure 2**.

PROPERTIES ADJOINING SUBJECT SITE		
Direction	**Address**	**Company Name/Site Use**
North	N/A	Hartford Park Maintenance Association, Sensitive Habitat Area (**Photo 1** - **Appendix B**)
East	Various	Gas station and commercial developments **(Photos 2 and 3 – Appendix B)**
South	Various	Vacant, undeveloped land, commercial developments, and a gas station (**Photos 4, 5 and 6 - Appendix B**)
West	Various	Single-family residences (**Photo 7 - Appendix B**)

3.0 USER PROVIDED INFORMATION

The user of this Phase I ESA is identified as Sage Investco. As a part of the ASTM E1527-13 process, Mr. Ralph Deppisch, (Director of Development) was forwarded a questionnaire regarding the property. This completed User questionnaire is included in **Appendix C**, and is summarized below.

3.1 Environmental Liens or Activity and Use Limitations

Mr. Deppisch stated that there are no activity and use limitations or environmental liens filed against the Site. Leighton subcontracted NETR to research for potential environmental liens or activity use limitations (AULs). A copy of the lien search report is provided in **Appendix D**. The results of the search indicate no environmental liens or AULs.

3.2 Specialized Knowledge

Mr. Deppisch indicated that he does not possess any specialized knowledge or experience regarding the Site.

3.3 Commonly Known or Reasonably Ascertainable Information

Mr. Deppisch indicated that he has no knowledge of potential chemical spills, usage of chemicals at the Site, or any environmental cleanups on the Site.

3.4 Valuation Reduction for Environmental Issues

Mr. Deppisch indicated there has been no reduction of the purchase price from fair market property value as a result of environmental contamination.

3.5 Owner, Property Manager, and Occupant Information

The property owners of title are listed as:

Damas Clinton Keith LLC, and 24850-23980 Catt Rd Trust dated 11/27/2020, Lahn Valley LLC as Trustee for APNs 376-410-015 and 376-410-021.

Aram Properties, LLC for APNs 376-410-016 and 376-410-017.

3.6 Reason for Performing Phase I ESA

The Phase I ESA is being completed per the request of the client/user prior to a prospective purchase of the Site.

3.7 Other

No other significant user information was provided.

4.0 RECORDS REVIEW

4.1 Physical Setting Source(s)

Leighton reviewed pertinent maps, readily available literature and databases for information on the physiography and hydrogeology of the Site. A summary of this information is presented in the following subsections.

4.1.1 Topography

The Site is located in Township 06 South, Range 04 West, Section 36, San Bernardino Baseline and Meridian in the City of Wildomar, California.

The Site is depicted as undeveloped vacant land. The elevation is approximately 1345 feet above mean sea level (msl). Topography of the Site and immediate area slopes gradually to the southwest. Topographic map coverage of the Site vicinity is provided by the United States Geological Survey (USGS) TP, Murrieta, 2012, 7.5-minute Topographic Quadrangle, and SW, Wildomar, 2012, 7.5-Minute Topographic Quadrangle (USGS, 2012).

4.1.2 Surface Water

Surface water was not observed on Site. A dry tributary of Murrieta Creek crosses the northeast portion of the Site. There are no significant surface water bodies (i.e. oceans, lakes, rivers, creeks, reservoirs, etc.) within a one-mile radius of the Site. The closest major water body is Murrieta Creek, approximately 1.1 mile to the southwest (USGS, 2012).

The average annual precipitation in the general Site vicinity (Lake Elsinore Station) is 12.44 inches (NOAA, 2010).

4.1.3 Shallow Soils

The Site is mapped as generally being underlain by PLACENTIA, HANFORD, and MONSERATE fine to coarse sandy loam deposits. These loam deposits are composed of fine grained soils (silts and lean clays) to coarse grained soils (gravels, gravels with fines, and silty gravel), that consist of moderately well-drained to well-drained soils (**Appendix E**).

4.1.4 Geology / Hydrogeology (Groundwater Depth and Flow Direction)

The Site is located within a prominent natural geomorphic province in southwestern California known as the Peninsular Ranges. This province is characterized by steep, elongated ranges and valleys that trend northwestward. More specifically, the Site is situated within the southern portion of the Perris Block, an eroded mass of Cretaceous and older crystalline rock.

The Perris Block is approximately 20 miles by 50 miles in extent, is bounded by the San Jacinto Fault Zone to the northeast, the Elsinore Fault Zone to the southwest, the Cucamonga Fault Zone to the northwest, and the Temecula Basin to the south. The Perris Block has had a complex tectonic history, apparently undergoing relative vertical land-movements of several thousand feet in response to movement on the Elsinore and San Jacinto Fault Zones. Thin sedimentary and volcanic materials locally mantle crystalline bedrock. Young and older alluvial deposits fill the lower valley areas.

The Site is located within the Temecula Valley Groundwater Basin (DWR, 2021, SDRWCB, 2021). The basin underlies the Murrieta, Temecula, Pauba, Long, and Lancaster Valleys in southwestern Riverside County and a portion of northern San Diego County (DWR, 2003).

The San Diego Regional Water Quality Control Board (SDRWQCB) has designated the Site area as being within the Santa Margarita Hydrologic Unit, which is within the Murrieta Hydrologic Area, within the larger Temecula Valley Groundwater Basin. Designated beneficial uses of groundwater in the Santa Margarita Hydrologic Unit include: municipal, agricultural, industrial and process supply (SDRWQCB, 2021).

There are two groundwater wells located on the Site. One well, located on the west-center portion of the Site, appeared to be in operating condition and servicing the single-family residence on Site. Depth to water data from the second, DWR reported well, indicated approximately 37 feet bgs in March 1968; however, it is likely the depth to water has changed significantly since 1968 and would likely be much deeper. This well (335984N1172421W001) is located on the east-central portion of the Site (DWR, 2021). Based on Site topography, groundwater is estimated to flow to the southwest.

4.2 Standard Environmental Record Sources

Leighton contracted a search of selected environmental databases. The search was performed in general accordance with requirements of ASTM E1527-13. A copy of the database search report is provided in **Appendix E**; however, a summary of the results is discussed below.

4.2.1 Subject Property

The Site itself is not listed in the database search report.

4.2.2 Offsite

Provided below is a brief summary of notable listings based on their close proximity to the Site, or the nature of their listing:

NOTABLE OFF SITE LISTINGS	
Listing Name	**Address / Location**
Tesoro USA 68238/ Tesoro West Coast Co LLC NO 68238/ Tesoro Sierra Properties LLC #68238/ Tesoro (Speedway) 68238	**23905 Catt Road, Wildomar, CA 92595**
This facility is adjoining 115 feet southwest of the Site (across Arya Road). It is listed in the HWTS, CERS HAZ WASTE, CERS TANKS, HAZNET, CERS, RCRA-SQG, FINDS, RCRA NONGEN/NLR, and UST databases. These database listings are related to current Underground Storage Tanks (USTs), hazardous waste generating, treatment, and disposal related to gasoline station, convenience store, and car wash operations. A review of CERS listings identified various maintenance violations with no indication of a release. This facility exists in the likely down gradient direction from the Site. **It is our judgment there is a low likelihood these listings indicate a REC on the Site.**	
KA Management Inc. DBA Clinton Keith Chevron/ Shell Oil Products/Euilon Enterprises LLC DBA Shell Oil Products/ K A Management/ Clinton Keith Shell	**23805 Clinton Keith Rd Ste H5, Wildomar, CA 92595**
This facility is a gas station approximately 520 feet southwest of the Site (across Clinton Keith Road). It is listed in the RCRA NONGEN/ NLR, HWTS, CERS HAZ WASTE, CERS TANKS, HAZNET, CERS, UST, and EDR HIST AUTO databases. These database listings appear to be related to the current and historical Underground Storage Tanks (USTs), hazardous waste generating, treatment, and disposal related to gasoline station. A review of CERS listings identified various maintenance violations. None of the records indicated a release. **It is our judgment there is a low likelihood these listings indicate a REC on the Site.**	
Prompt Cleaners/ Laguna Beach Dental Group/ Prompt Cleaners, OK Hwan Kim DBA	**23905 Clinton Keith Road, Wildomar/ 23905 Clinton Keith Road #119, Wildomar / 23905 Clinton Keith Road 119, Wildomar, CA 92595**
This facility is a dry cleaner approximately 530 feet south of the Site (across Clinton Keith Road). It is listed in the EDR HIST CLEANER, CERS HAZ WASTE, HWTS, DRYCLEANERS, HAZNET, and RCRA NONGEN/NLR databases. These database listings appear to be related to the current and historical use of solvents for drycleaning and laundry services. Due to the distance from the Site and since it is down gradient, these CERS listings are not generally a concern or indicator of a likely REC. **It is our judgment there is a low likelihood these listings indicate a REC on the Site.**	
Andondian Enterprises Inc DBA Discount Tire Center	**23885 Clinton Keith Rd Ste H5, Wildomar, CA 92595**
This facility is a tire center approximately 0.20 miles south of the Site (across Clinton Keith Road). It is listed in the HWTS, CERS HAZ WASTE, HZNET, CERS, and RCRA NONGEN/NLR databases. These database listings are related to hazardous waste storage and handling. Due to the distance from the Site and since it is down gradient, these CERS listings are not generally a concern or indicator of a likely REC. **It is our judgment there is a low likelihood these listings indicate a REC on the Site.**	

Inland Valley Regional Medical Center/ Inland Valley Regional Medical Ctr	**36485 Inland Valley Drive, Wildomar, CA 92595**
This facility is a medical center approximately 0.45 miles southeast of the Site. It is listed in the LUST, UST, SWEEPS UST, CERS HAZ WASTE, CERS TANKS, CORTESE, EMI, and CERS databases. Most of these database listings are related to former Underground Storage Tanks (USTs) and a leaking UST (LUST) case at the Inland Valley Regional Medical Center. In regards to the LUST case, descriptions of its location relative to the subject Site indicate it was approximately 0.45 miles southeast. Further details regarding the LUST case are discussed below in **Section 4.2.3** (Geotracker). **It is our judgment there is a low likelihood these listings indicate a REC on the Site.**	

No other database listings of potential concern were reported. A review of reported "Orphan" facilities also indicated no concerns. **In summary, the database search report resulted in no On- or Off-Site listings likely to have created a REC on the Site**. A copy of the database search report is provided in **Appendix E**.

4.2.3 Regulatory Agency Contacts

Leighton staff researched other reasonably ascertainable, local and regional regulatory agency records. The results are summarized below:

City of Wildomar (COW)
A search for records was completed on-line with the City of Wildomar for copies of any building permits or documents. As of the date of this report, a response to the request has not been received; however, they have indicated they do not have any records prior to 2008. This a data gap judged likely to be insignificant.
Riverside County Department of Environmental Health (RCDEH)
A request for a records search was made to the Riverside County Department of Environmental Health (RCDEH) under the APNs and existing and previous Site addresses. The RCDEH responded stating that no records were found (**Appendix F**).
State of California Dept. of Toxic Substances Control (DTSC)
A request for a records search was made to the DTSC Cypress and Chatsworth offices under the current Site APNs. Both offices responded stating that no records were found (**Appendix F**).

State of California Regional Water Quality Control Board, San Diego Region (SDRWQCB)
A request for a records search was made to the San Diego Regional Water Quality Control Board (SDRWQCB) under the current Site APNs and addresses. As of the date of this report, the SDRWQCB has stated that no records were found for the Site APNs, and a final response has not been received regarding the Site addresses. A copy of the request is provided in **Appendix F**.

Envirostor - DTSC Envirostor Database
A review of the DTSC Envirostor database revealed one listing within an approximate 1.0-mile radius of the Site. **Proposed Elementary School No. 15** is located approximately 0.6-mile northwest of the Site. The listing is the location of an environmental investigation performed prior the construction of a new school facility. A Phase I ESA was performed for the property, and no further action was recommended (Envirostor, 2021). **It is our judgment there is a low likelihood this listing indicates a REC on the Site.** **Proposed Donald Graham Medical Therapy Unit** is located approximately 0.94-mile northwest of the Site. The listing is the location of an environmental investigation performed prior the construction of a new school facility. A Phase I ESA was performed for the property, and no further action was recommended (Envirostor, 2021). **It is our judgment there is a low likelihood this listing indicates a REC on the Site.**

GeoTracker - State of California Water Resources Control Board GeoTracker Database

A review of the GeoTracker database revealed four (4) listings within an approximate 0.5-mile radius of the Site.

- Tesoro (Speedway) 68238 (23905 Catt Road Wildomar, CA) This facility is a listed UST facility approximately 115 feet southwest of the Site and has an active permit for an underground storage tank (UST) (Geotracker, 2021). A review of CERS listings identified various maintenance violations with no indications of a release. **It is our judgment there is a low likelihood this listing indicates a REC on the Site.**

- Shell Oil Products US (23805 Clinton Keith Road, Wildomar, CA) This facility is a listed UST facility approximately 520 feet southwest of the Site and has an active permit for an underground storage tank (UST) (Geotracker, 2021). **It is our judgment there is a low likelihood this listing indicates a REC on the Site.**

- Arco AM/PM (36228 Hidden Springs Rd, Wildomar, CA) This facility is a listed UST facility approximately 0.4 miles southwest of the Site and has an active permit for an underground storage tank (UST) (Geotracker, 2021). **It is our judgment there is a low likelihood this listing indicates a REC on the Site.**

- Inland Valley Regional Medical Center (36485 Inland Valley Dr., Wildomar, CA) This facility is approximately 0 .45 miles southeast of the Site and is listed as a LUST Cleanup Site, as case closed as of 10/13/2006 (Geotracker, 2021). A Geotracker review revealed that in July 1999 a leak was discovered, stopped, and subsequently reported. In September 2000, a 20,000-gallon diesel tank was removed and five monitoring wells were installed. Remediation included soil sampling, groundwater monitoring, contaminated soil excavations, and soil vapor monitoring. **Due to distance from Site, and since this facility is down gradient, it is our judgment there is a low likelihood this listing indicates a REC on the Site.**

California Department of Conservation, Geologic Energy Management Division (CalGEM)

The CalGEM Well Finder internet database was reviewed to search for any indication of the presence of an active or abandoned oil or gas wells, on or within the vicinity of the Site. The review indicated no wells within an approximate 1.0-mile radius of the Site (CalGEM, 2021).

National Pipeline Mapping System (NPMS)

The NPMS pipeline database revealed no gas transmission pipelines, no hazardous liquid pipelines, and no pipeline incidents (gas) or accidents (liquid) within an approximate 1.0-mile radius of the Site (NPMS, 2021).

South Coast Air Quality Management District (SCAQMD)

An on-line records search was completed for the immediate site vicinity using the SCAQMD F.I.N.D database. The database reported no records associated with the Site. The closest listing was:

- Palisades Gas & Wash Inc, USA Gas #844 (23-900 Clinton Keith Road Wildomar, CA) This facility is approximately 0.40 miles southwest of the Site and has an active status with no permits listed (SCAQMD, 2021). **It is our judgment there is a low likelihood this listing indicates a REC on the Site.**

Copies of the various local and regional agency records requests and responses are provided in **Appendix F**.

4.2.4 Radon

Radon is not regulated within the State of California. Nonetheless, the California Department of Health Services (CDPH) and the USEPA both recommend a threshold of 4 picocuries per liter (pCi/L) above which certain precautions be taken to mitigate radon buildup in structures. The Site is reported to be located in Zone 2, which has a likely predicted average indoor radon screening levels between 2 and 4 pCi/L.

4.2.5 Other Reports

No other reports have been provided by the Client for the Site.

4.2.6 Vapor Encroachment

A vapor encroachment screening was completed in general accordance with ASTM Standard Guide E2600-10. Our modified Area of Concern (AOC) is defined as follows:

Direction Relative to Site	AOC - VOC Vapors	AOC - Petroleum HC Vapors
Up Gradient Source	1,760 feet	520 feet
Cross Gradient Source	365 feet	165 feet
Down Gradient Source	100 feet	100 feet

Two adjoining facilities of potential concern were identified, but are just outside of the modified AOC:
Tesoro (Speedway) 68238 (23905 Catt Road Wildomar, CA) This facility is approximately 115 feet southwest of the Site and has an active permit for an underground storage tank (UST) (Geotracker, 2021). This facility is down gradient of the Site, but no evidence of a petroleum or other VOC release was found in the database search report, indicating it is not a Vapor Encroachment Condition (VEC).

7-11 (24116 Clinton Keith Road Wildomar, CA) This facility was observed during the Site Reconnaissance as a newly constructed gas station and is approximately 120 feet east of the Site. This facility is cross gradient of the Site, but there is no evidence in the database search report of a petroleum or other VOC release, indicating it is not a VEC..

4.3 Historical Use Information on the Property

Following is a summary of our review of records regarding historical usage of the Site and adjoining properties, as this information pertains to the potential for environmental concerns.

Info Type	Years	Source	Summary of Results
Topo Maps	1901 1942 1943 1947 1953 1973 1979/82 1988 1997 2012	EDR	• **1901**: Map depicts one generally north-south-trending dirt road bisecting the center of the Site. Map shows no evidence of development on Site. • **1942-1947**: Maps depict a tributary of Murrieta Creek in the northeast portion of the Site and a generally east-trending dirt road transecting the southern portion of the Site. The north-south-trending dirt road bisecting the center of the Site is no longer depicted. • **1953**: Map depicts Catt Road as a paved road along the southern boundary of the Site. • **1973-1979/82**: Maps depict two elongated north-south-trending structures in the northwestern portion of the Site, and two smaller structures in the southwestern portion of the Site in 1973. An additional structure just east of existing structures is depicted on the 1979/82 map. • **1988-1997:** The Site is not depicted on these maps. • **2012:** The Murrieta Creek tributary is depicted in the northeastern portion of the Site. George Road is depicted along the eastern boundary of the Site. Structures are no longer depicted on the map.

Info Type	Years	Source	Summary of Results
Aerial Photos	1938 1949 1961 1967 1974 1978 1985 1989 1996 1997 2002 2006 2009 2012 2016	EDR	• **1938-1961**: The Site appears to be vacant, undeveloped land. A dirt road is visible adjoining the Site on the southern boundary of the property. A southeast trending tributary of Murrieta Creek is visible in the northeast portion of the Site. Evidence of weed abatement is visible in the 1953 photo. In 1961, an additional tributary is visible in the northwest portion of the Site. The surrounding properties appear to be vacant, undeveloped land. • **1967-1974**: An elongated north-south-trending rectangular structure, possibly a chicken ranch is visible in the northwest portion of the Site. One additional east-west-trending rectangular structure is visible just south of the larger structure. Possible covered compost piles are visible just east of the two larger structures, and a rural residence appears in the southwest portion of the Site. Dirt roads are visible along the southern boundary, surrounding the rural residence, and east of the structures. Only one Murrieta Creek tributary is visible in the northeast portion of the property. The eastern portion of the Site appears to be vacant, undeveloped land. • **1978-1985**: Elongated rectangular structure is no longer visible in the northwestern portion of the Site. Visible in the northwestern portion of the Site are what appears to be animal corrals with an adjoining L-shaped structure. Southeast of the L-shaped structure is an elongated rectangular structure. The covered compost piles are no longer visible. An additional rural residence with dirt road is visible east of the existing rectangular structure on the western portion of the Site. An additional rural residence is visible on the eastern portion of the Site with a north-south trending dirt road. The northeastern and center portion of the Site appear to be vacant. In 1978 Clinton Keith appears as a dirt road and agriculture land use (orchard) appears in the northeast and southeast portion of the Site. In 1985, a northwest adjoining rural residence appears and the south adjoining Clinton Keith Road is paved. • **1989:** Two rectangular structures and an apparent materials storage yard with various storage containers and/or trailers appear in APN 376-410-017. A smaller rectangular structure appears in the center of the Site. Additional animal pens appear in the northwest portion of the Site. • **1996-1997**: Materials storage yard is no longer visible on the Site. The north eastern structures, animal corrals, and smaller rectangular structure in the center of the Site are no longer visible. A concrete pad remnant is visible in the northeast portion of the Site. The central portion of the Site is vacant land.

			• 2002-2006: The rural residence is no longer visible in the southeast portion of the Site and the orchard no longer appears to be maintained in the eastern portion of the Site. Arya Road is paved on the southwest adjoining portion of the Site and in 2006 a gas station is visible at the intersection of Arya Road and Catt Road. Commercial development is visible in areas south of the Site. • 2009-2016: In 2009, a large north-south trending soil stock pile appears just east of the center of the Site and single-family residences appear adjoining the western boundary of the Site. Dozens of soil stock piles appear east of center near the southern boundary of the property and on top of the larger soil stock pile in the north. In 2012 the elongated structure west of center appears to be demolished and in 2016 a concrete pad is visible in place of the rural residence west of center of the Site.
Fire Insurance Maps	N/A	EDR	No coverage reported for Site.
City Directories	N/A	EDR	One (1) City Directory listing from 1980, Flora Danica Agri (23980 Catt Road, Wildomar, CA) was identified and may be potentially related to historic agriculture land use (orchards).

Summary of Historical Review – From at least the 1930's through the early 1960's, no development was visible on the Site. From approximately 1967 until the late 1970's the western portion of the Site was likely used as a chicken ranch with ancillary structures, rural residences, and dirt roads. From approximately 1978 until the mid-1980's the large structure associated with the chicken ranch appears to have been demolished and the Site was occupied by additional rural residences, ancillary structures, animal corrals, and agricultural land use (orchard) in the northeast and southeast portion of the property. In 1989, an apparent material storage yard with storage containers or trailers was visible on APN 376-410-017. By the mid-1990's this materials storage yard with containers, the northeastern structures, and animal corrals had been removed from the Site, and the L-shaped structure in the northwestern portion of the Site was replaced by a rectangular shed. Between the early 2000's and the present, the rural residence in the southeast portion was demolished, the orchard in the eastern portion of the property was removed and a large north-south trending soil stock pile appeared just east of center on the northern portion of the Site with dozens of additional smaller soil stock piles, of unknown origin, just east of center in the southern portion of the Site. A single-family residence remained in the southwest portion of the property since 1967 to the present.

Potential environmental concerns noted during the historical review include:

- **Dozens of stockpiles of soil of unknown origin, mostly on APN # 376-410-017 (TPH, Title 22 Metals, OCPs, VOCs and PCBs);**
- **Usage of the Site for potential former chicken ranch operations between approximately 1967-1974 (methane gas);**
- **Former agricultural land use (i.e. orchard) on the northeastern and southeastern portion of APN #376-410-021 (residual pesticides);**
- **The age of current and historical structures on the Site (asbestos and lead based paint).**

The above-described concerns are potential RECs, and further investigation is recommended. Copies of selected documents used to assess historical Site and adjoining property usages (i.e. topographic maps, aerial photos, city directories, etc.) are provided in **Appendix G**.

5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

On July 12, 2021, a representative of Leighton conducted a reconnaissance–level assessment of the Site. The reconnaissance consisted of observing and documenting existing conditions on the Site and adjoining properties.

Limitations to the Site reconnaissance included: an occupied private residence, fenced off portion along the western portion of the Site, and low weed coverage making observations of the ground (soil) surface difficult in some areas.

Photographs of the Site are provided in **Appendix B**. The locations, orientations and designations of the photographs are shown on **Figure 2**.

5.2 General Property Setting

The Site is approximately 8.96 acres total in area, and consists of a single-family residence with an attached garage, a dilapidated rural residential structure, a vacant metal shed and vacant undeveloped land. The Site is located at the northwest corner of Clinton Keith Road and Wildomar Trail. The northern adjoining property consists of the Hartford Park Association Sensitive Habitat Area, the eastern adjoining properties consist of commercial developments and a new gas station, the southern adjoining properties are a dirt lot with a strawberry stand and commercial developments, the western adjoining properties are occupied by single-family residences and the southwest adjoining property is a gas station.

5.3 Exterior and Interior Observations

Three structures are present on the Site: one single-family residence with an attached garage, a dilapidated rural residential structure, and a vacant metal shed. The exterior of the single-family residence was inspected from outside of fenced area; however, the interior was not inspected. Both interior and exterior observations were made from outside the dilapidated structure and the shed. (**Appendix B - Photos 8-15**) A concrete foundation was observed on the east-center portion of the Site east of the dilapidated structure (**Appendix B - Photo 16**). Additional remnants of previous structures, two small cinderblock walls on the northern portion of the Site (**Appendix B - Photo 17**) and concrete stairs exist in the central portion of the Site (**Appendix B - Photo 18**). Attached (**Appendix B - Photos 19-50**) show various additional views/perspectives of the Site.

5.3.1 Hazardous Substances, Drums, and Other Chemical Containers

A propane tank was observed on the western portion of the Site (**Appendix B - Photo 19)**. No staining was observed on or around the propane tank, and it was not possible to tell if the tank contained any liquids or solids, however propane does not pose a risk of contamination to the ground or soil.

5.3.2 Storage Tanks

No evidence of current or former above or underground storage tanks (USTs), containing hazardous substances or petroleum products, was observed on the Site, with the exception of the propane tank mentioned above in section 5.3.1.

5.3.3 Polychlorinated Biphenyls (PCBs)

A single pole-mounted transformer was observed on the southwestern portion of the Site (**Appendix B - Photo 20**). The transformer appeared to be new and in good working condition with no visible staining in the soil surrounding the pole. The base of the pole appeared to be coated in creosote (**Appendix B - Photo 21**). Other electrical equipment such as breaker boxes and electrical meters associated with the former structures on Site were observed on the southwestern portion of the property (**Appendix B - Photos 22-23**) No pad-mounted transformers were observed on the Site.

PCBs were once used as industrial chemicals whose high stability contributed to both their commercial usefulness and their long-term deleterious environmental and health effects. PCBs can be present in coolants or lubricating oils used in older electrical transformers, hydraulic systems, and other similar equipment. In 1979, the USEPA generally prohibited the domestic manufacture of PCBs in electrical capacitors, electrical transformers, vacuum pumps, hydraulic pumps, and gas turbines.

5.3.4 Waste Disposal

No evidence of waste disposal was observed on the Site.

5.3.5 Dumping

Dozens of stockpiles of soil, of unknown origin, were observed on APN 376-410-017. (**Appendix B - Photos 24-26**). A larger soil stock pile was observed north-south-trending in the northern portion of this same parcel (**Appendix B- Photo 40**). Debris piles of various materials such as old furniture, rubbish, wood, and concrete were observed throughout the Site (**Appendix B - Photos 27-30**). Small quantities of incidental inert refuse were observed across the Site.

5.3.6 Pits, Ponds, Lagoons, Septic Systems, Wastewater, Drains, Cisterns, and Sumps

A concrete lined storm drain with spillway from Wildomar Trail was observed on the eastern boundary of the Site (**Appendix B - Photo 31**). An additional storm drain was observed in the southeast portion of the Site (**Appendix B - Photo 32**). A corrugated metal storm sewer was observed south-east-trending in the dry creek in the northeastern portion of the Site (**Appendix B - Photo 33**).

Mr. Akbarpour, part owner of APN 376-410-015, mentioned in the Owner Questionnaire that a septic system existed on Site in the past or present; however, evidence of a septic system was not observed during the Site Reconnaissance. No evidence of pits, ponds, lagoons, wastewater, cisterns or sumps was observed on the Site.

5.3.7 Pesticide Use

No evidence of current or past pesticide use was observed at the Site.

5.3.8 Staining, Discolored Soils, Corrosion

Two soil piles (**Appendix B - Photos 34 and 35**) appeared to be darker in color than the surrounding soils, indicating some petroleum or hazardous substance may have been spilled or dumped in these areas. No other staining was observed on the Site.

5.3.9 Stressed Vegetation

No stressed vegetation was observed on the Site.

5.3.10 Unusual Odors

No unusual odors were detected at the Site.

5.3.11 Onsite Wells

Two groundwater wells were observed on the Site. An operating well with pump was observed on the western portion of the Site (**Appendix B- Photo 19**), and an additional older, inoperable domestic well was observed on the eastern portion of the Site (**Appendix B - Photo 36**).

5.3.12 Other

A potential irrigation pump, and potentially abandoned irrigation piping was observed on eastern portions of the Site (**Appendix B - Photos 37-39**).

No other evidence of potential environmental concern was observed on the Site.

6.0 INTERVIEWS

Leighton conducted interviews with persons having knowledge of current or past Site usage. Interviews were conducted either orally or in the form of a written questionnaire. Written responses are included as **Appendix C**.

6.1 Interview with Owners

Two separate owners were identified for the Site.

For APNs 376-410-015 and 376-410-021 the owners were identified as Damas Clinton Keith LLC, and 24850-23980 Catt Rd Trust dated 11/27/2020, Lahn Valley LLC as Trustee. On July 13, 2021, Mr. Sam Akbarpour, Part Owner of APNs 376-410-015 and 376-410-021, completed the Phase I ESA Owner Interview form for the Site. Mr. Akbarpour stated that for APN 376-410-015 a well (groundwater, oil, and/or gas), and a septic system, existed now or in the past onsite or on adjacent properties. Mr. Akbarpour stated that he was not aware of environmental conditions on the Site or previous reports or environmental regulatory involvement at the Site.

For APNs 376-410-016 and 376-410-017 the owner was identified as, Aram Properties, LLC. On July 13, 2021, Mr. Imdad Yusufaly, Property Owner and Manager of Aram Properties, LLC, completed the Phase I ESA Owner Interview form for the Site. Mr. Yusufaly stated that he was not aware of environmental conditions on the Site or previous reports or environmental regulatory involvement at the Site.

No other property owners were interviewed by Leighton.

6.2 Interview with Property Manager

The Site Managers were identified as the same as above. The owners/representatives completed the Phase I ESA Owner/Site Contact Interview Form and returned it to Leighton (see discussion above in **Section 6.1**).

6.3 Interviews with Occupants

Leighton did not interview the occupants of the single-family residence.

6.4 Interviews with Local Government Officials

Leighton did not interview employees with local government agencies.

6.5 Interviews with Others

Leighton did not conduct any other additional interviews. The interview with the User of the Phase I is discussed previously in **Section 3.0.**

7.0 FINDINGS

Leighton performed a Phase I ESA for the property in Wildomar, California, in general accordance with Sage Investco (Client's) authorization.

7.1 Onsite

The Site is approximately 8.96 acres of mostly vacant undeveloped land with a single-family residence, and is located at the northwest corner of Clinton Keith Road and Wildomar Trail in Wildomar, Riverside County, California (**Figure 1**). The Site consists of four (4) Riverside County Assessor Parcel Numbers (APNs): 376-410-015, 376-410-016, 376-410-017, and 376-410-021.

The Site is mostly vacant land, with a single-family residence, one dilapidated rural residential structure, and a vacant metal shed. The Site is bounded on the west by a residential community, on the south by Catt Road, an unpaved dirt road, on the southeast by Clinton Keith Road, a paved road, and on the east by Wildomar Trail, a paved road. The general Site slopes gradually to the southwest. There is an incised stream, a former tributary of Murrieta Creek, in the northeastern portion of the Site. The site is generally covered with low weed cover. The property adjoining north of the Site consists of the Hartford Park Association Sensitive Habitat Area. The property adjoining east of the Site (across Wildomar Trail) consists of a gas station and commercial developments. The properties adjoining south of the Site consist of a vacant lot with a strawberry stand and commercial developments (across Clinton Keith Road). The property adjoining southwest of the Site (across Arya Road) consists of a gas station. The properties adjoining west of the Site consist of single-family residences.

The approximate average Site elevation is 1,345 feet above msl, and gradually slopes to the southwest. There are no significant surface water bodies on the Site or within a one-mile radius. The closest major water body is Murrieta Creek, approximately 1.1 miles to the southwest (USGS, 2012). The average annual precipitation in the general Site vicinity (Lake Elsinore Station) is 12.44 inches. The Site is mapped as generally being underlain by Placentia, Hanford, and Monserate fine to coarse sandy loam deposits. These loam deposits are composed of fine grained soils (silts and lean clays) to coarse grained soils (gravels, gravels with fines, and silty gravel), that consist of moderately well-drained to well-drained soils.

The Site is located within the Santa Margarita Hydrologic Unit, within the Murrieta Hydrologic Area within the Temecula Valley Groundwater Basin (DWR, 2021, SDRWCB, 2021). The groundwater flow is assumed to flow southwest following the general topography of the area. There are two groundwater wells located on the Site. One well, located on the west-center portion of the Site, appeared to be in operating condition and servicing the single-family residence on Site. Depth to water data from the second, DWR reported well, indicated approximately 37 feet bgs in March 1968; however, it is likely depth to water has changed significantly since 1968 and would likely be much deeper. This well (335984N1172421W001) is located on the east-central portion of the Site (DWR, 2021).

An ASTM E1527-13 search of selected environmental databases indicated the Site itself is not listed. Leighton staff also researched other reasonably ascertainable, local and regional regulatory agency records using the current site APNs and listed addresses. No records were reported in

the Envirostor, GeoTracker, CalGEM, SCAQMD FINDS, or NPMS databases. DTSC and RCDEH reported no records in connection with the Site. SDRWQCB reported no records in connection with the Site APNs. A supplemental request with Site addresses was provided to the SDRWQCB and no response has been received at the time this report was written. As of the date of this report, no response to the records search request has been received by the City of Wildomar.

From at least the 1930's through the early 1960's, no development was visible on the Site. From approximately 1967 until the late 1970's the western portion of the Site was likely used as a chicken ranch with ancillary structures, rural residences, and dirt roads. From approximately 1978 until the mid-1980's the large structure associated with the chicken ranch appears to have been demolished and the Site was occupied by additional rural residences, ancillary structures, animal corrals, and agricultural land use (orchard) in the southeast portion of the property. In 1989, an apparent material storage yard with storage containers or trailers was visible on APN 376-410-017. By the mid-1990's this materials storage yard with containers, the northeastern structures, and the animal corrals had been removed from the Site, and the L-shaped structure in the northwestern portion of the Site was replaced by a rectangular shed. Between the early 2000's and the present, the rural residence in the southeast portion of the property was demolished, the orchard in the southeast portion of the property was removed, and a large north-south trending soil stock pile appeared just east of center on the northern portion of the Site with dozens of additional smaller soil stockpiles, of unknown origin, just east of center in the southern portion of the Site. A single-family residence has remained in the southwest portion of the property since at least 1967 to present. .

7.2 Offsite

A search of standard record databases indicated no adjoining or nearby facilities likely to have created a REC on the Site. A review of the Envirostor, GeoTracker, SCAQMD FINDS, CalGEM and NPMS (pipelines) databases revealed no nearby facilities likely to have created a REC on the Site.

8.0 OPINION & CONCLUSIONS

8.1 Onsite

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM E1527-13 for the property in Wildomar, California. Any exceptions to, or deletions from, this practice are described in Section 1.5 of this report.

The Phase I ESA identified the following potential RECs on the Site:

- The presence of dozens of stockpiles of soil, of unknown origin, on APN 376-410-017 is a REC. Representative soil samples should be collected from these materials and analyzed for TPH, Title 22 Metals, OCPs, VOCs and PCBs. A few samples should focus on the stained areas discussed in **Section 5.3.8**.

- Methane may be present in the subsurface of APN 37-410-015 as a result of the former chicken ranch operations observed in historical aerial photographs from 1967 to 1974. While not a REC, local regulations require post-grading sampling for methane in former livestock operation areas, and possible methane mitigation measures (ex. vapor barriers) may be required depending upon the sampling results. Pre-grading methane sampling is not required, and may not be a reliable indicator of post grading methane conditions.

- Former agricultural land use (i.e. orchard) in the northeastern and southeastern portion of APN 376-410-021 is a concern if this area is to be developed as residential, and residual pesticide testing would be recommended. Currently, the proposed development plans indicate this area is to be developed with commercial/retail.

- Based on the age of the current and dilapidated structures on the western portion of the Site, lead based paint and asbestos are likely present, and are an environmental concern. The potential scope of this environmental liability can be further quantified by testing for these materials.

8.2 Offsite

The standard records database search, review of local agency records, review of historical adjoining property usages, and adjoining site reconnaissance identified no offsite properties likely to have created a REC on the Site.

8.3 Data Gaps

The following data gaps were identified by Leighton:

As of the date of this report the City of Wildomar has not responded to records search requests and the SDRWQCB has not provided a final response. In consideration of all other data collected during this assessment, these data gaps are judged to have a low likelihood of significance.

8.4 Other

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM E1527-13 for the property in Wildomar, California. Any exceptions to, or deletions from, this practice are described in Section 1.5 of this report.

In general, observations should be made during future development for areas of possible contamination such as, but not limited to, the presence of underground facilities, buried debris, waste drums, and tanks, stained soil or odorous soils. Should such materials be encountered, further investigation and analysis may be necessary at that time.

9.0 DEVIATIONS

Leighton did not significantly deviate from or alter the scope of work, as defined in Section 1.3 of this report. The data gap identified was judged to be insignificant, and unlikely to affect the ability of Leighton to identify RECs at the subject site.

10.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

10.1 Corporate

Leighton is a California corporation, providing geotechnical and environmental consulting services throughout California. We are solely a consulting firm without interests in real property other than our offices in Southern California. We provide professional environmental consulting services including application of science and engineering to environmental compliance, hazardous materials/waste assessment and cleanup, and management of hazardous, solid and industrial waste. Phase I Environmental Property Assessments are a part of this practice area and have been conducted by us.

10.2 Individual

The qualifications of the Associate Geologist and the other Leighton environmental professionals involved in this Phase I ESA meet the Leighton corporate requirements for performing Phase I ESAs as specified by ASTM E1527-13.

10.3 Environmental Professional Statement

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental professional as defined by §312.10 of 40 CFR Part 312.

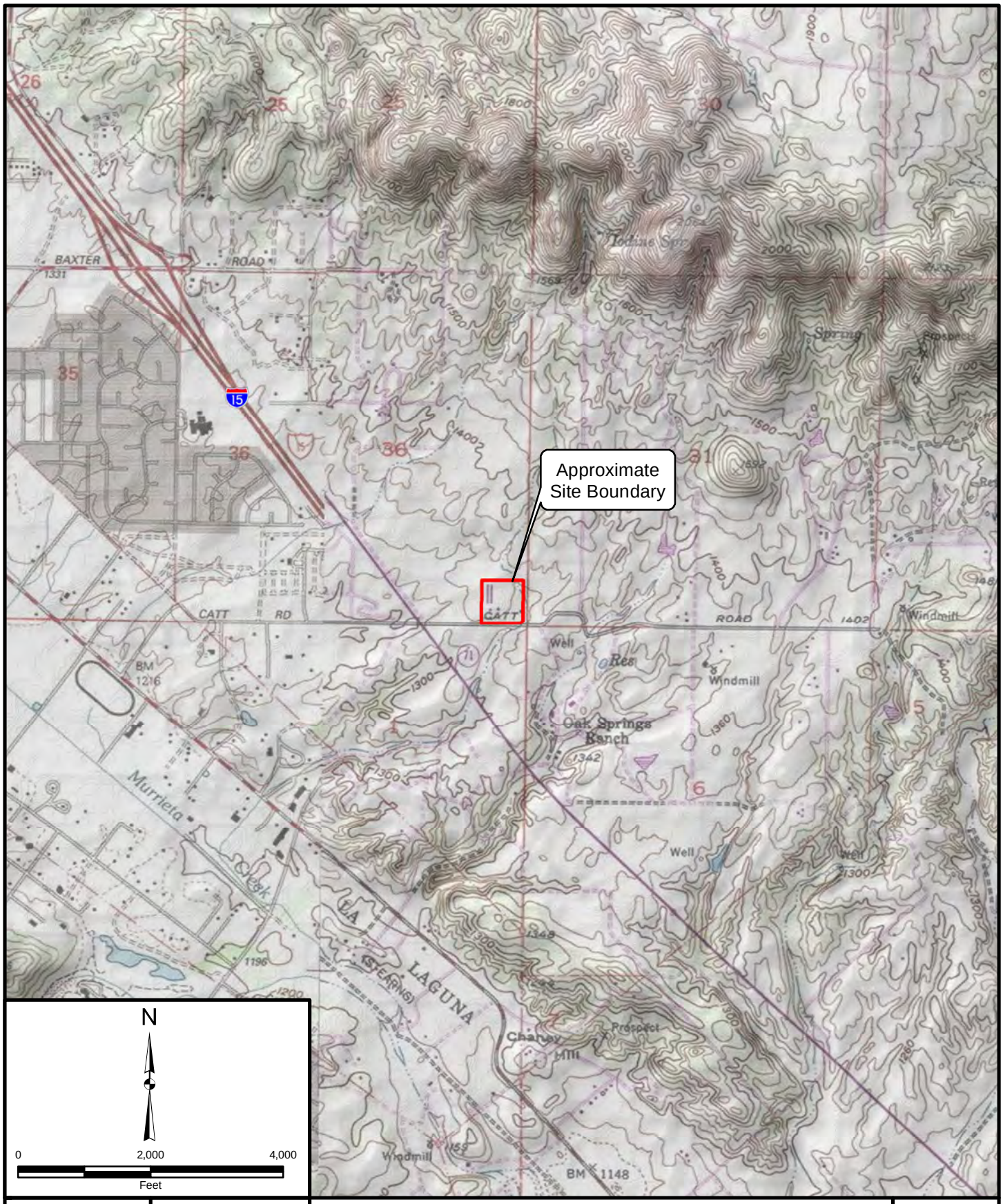
I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject site. I have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Robert Hansen
Project Geologist



Tracy Roberts
Staff Geologist



Project: 13158.002	Eng/Geol: RBH
Scale: 1 " = 2,000 '	Date: July 2021
Base Map: ESRI ArcGIS Online 2021 Author: Leighton Geomatics (kmanchikanti)	

SITE LOCATION MAP

NW Corner of Clinton Keith Rd and Wildomar Trail
City of Wildomar, County of Riverside, California

Figure 1

Leighton

Map Saved as V:\Drafting\13158\002\Maps\13158-002_Fig1_SLM_2021-07-20.mxd on 7/20/2021 12:49:55 PM

Legend

50 → Photo Location, Designation, and Direction

Approximate Site Limits

Hartford Park Maintenance Association Sensitive Habitat Area

Residential Community

Commercial

7-Eleven/Gas Station 24116 Clinton Keith Rd

24850 Catt Rd

Vacant Land/Strawberry Stand

Speedway Gas 23905 CAH Road

Commercial

N

0 120 240

Feet

Project: 13158.002	Eng/Geol: RBH
Scale: 1 " = 120 '	Date: July 2021
Base Map: ESRI ArcGIS Online 2021	
Author: (kmanchikanti)	

SITE AND ADJOINING PROPERTIES MAP

NW Corner of Clinton Keith Rd and Wildomar Trail
City of Wildomar, County of Riverside, California

Figure 2

Leighton

Map Saved as V:\Drafting\13158\002\Maps\13158-002_Fig2_SAP_2021-07-20.mxd on 7/20/2021 12:49:11 PM

Appendix A
References

APPENDIX A

REFERENCES

ASTM International, 2013, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation E1527-13, dated November 6, 2013.

CalGEM (California Department of Conservation, Geologic Energy Management Division), 2021, CalGEM Well Finder database, https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx, accessed July 13, 2021.

DWR (California Department of Water Resources), 2003, Bulletin 118, Update 2003, California's Groundwater, https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/9_005_TemeculaValley.pdf, July 20, 2021.

DWR (California Department of Water Resources), 2021, Water Data Library: http://wdl.water.ca.gov/waterdatalibrary/index.cfm, July 13, 2021.

DWR (California Department of Water Resources), 2021, online Water Data Library, https://wdl.water.ca.gov/waterdatalibrary/Home.aspx, July 13, 2021.

Environmental Data Resources, Inc. (EDR), 2021, Certified Sanborn Map Report, Inquiry Number 6571762.3, dated July 12, 2021.

Environmental Data Resources, Inc. (EDR), 2021, The EDR Radius Map Report with GeoCheck, Inquiry Number 6571762.2s, dated July 12, 2021.

Environmental Data Resources, Inc. (EDR), 2021, EDR Historical Topo Map Report, Inquiry Number 6571762.4, dated July 12, 2021.

Environmental Data Resources, Inc. (EDR), 2021, The EDR Aerial Photo Decade Package, Inquiry Number 6571762.8, dated July 12, 2021.

Environmental Data Resources, Inc. (EDR), 2021, The EDR-City Directory Image Report, Inquiry Number 6578614.1, dated July 12, 2021.

Envirostor, 2021, https://www.envirostor.dtsc.ca.gov/public/, accessed July 13, 2021.

GeoTracker, 2021, https://geotracker.waterboards.ca.gov/map, accessed July 13, 2021.

NETR Real Estate Research & Information, The NETR Environmental Lien and AUL Search Report, July 13, 2021.

NOAA (National Oceanic and Atmospheric Administration), Monthly Station Normals of Temperature, Precipitation, and Heating and Cooling Degree Days, 1981-2010, California; Climatography of the United states, https://www.ncdc.noaa.gov/cdo-web/datatools/findstation, accessed July 13, 2021.

NPMS (National Pipeline Management System), 2021, https://www.npms.phmsa.dot.gov/, accessed July 13, 2021.

SDRWQCB (California Regional Water Quality Control Board, San Diego Region), 1994, Water Quality Control Plan for the San Diego Basin (Region 9), dated September 8, 1994 (with amendments effective on or before May 17, 2016), https://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/docs/R9_Basin_Plan.pdf, accessed July 13, 2021.

SDRWQCB (California Regional Water Quality Control Board, San Diego Region), 2021, San Diego Basin Plan Map, https://gispublic.waterboards.ca.gov/portal/apps/webappviewer/index.html?id=1f58bd97fdcd45329a5e16e373ede24d accessed July 13, 2021.

SCAQMD (South Coast Air Quality Management District), 2021, https://www.aqmd.gov/nav/FIND; accessed July 13, 2021.

USGS (United States Geological Survey), 2012, Murrieta, California Quadrangle, 7.5-minute series (topographic) map; dated 2012.

USGS (United States Geological Survey), 2012, Wildomar, California Quadrangle, 7.5-minute series (topographic) map; dated 2012.

Appendix B
Site Reconnaissance Photos

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**

Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 1	
View of Direction of Photo: Northwest	
Description: View of the north-adjoining Hartford Park Maintenance Association Sensitive Habitat Area.	

Photo No. 2	
View of Direction of Photo: Northeast	
Description: View of east-adjoining commercial developments across Wildomar Trail.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 3	
View of Direction of Photo: Northeast	
Description: View of east-adjoining 7-11 Gas Station across Wildomar Trail.	

Photo No. 4	
View of Direction of Photo: South	
Description: View of the south-adjoining commercial developments across Clinton Keith Road.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**

Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 5	
View of Direction of Photo: Southeast	
Description: View of the south-adjoining dirt lot with an empty strawberry stand.	

Photo No. 6	
View of Direction of Photo: Southwest	
Description: View of southwest-adjoining Speedway Gas Station across Arya Road.	

Leighton 60th Anniversary	PHOTOGRAPHIC RECORD 7/12/2021	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 7 **View of Direction of Photo:** Southwest **Description**: View of west-adjoining single-family residences.	

Photo No. 8 **View of Direction of Photo:** Northeast **Description**: Broad view across the southern portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 9	
View of Direction of Photo: Northeast	
Description: View of the single-family residence on the southwest portion of the Site.	

Photo No. 10	
View of Direction of Photo: Northwest	
Description: View of the single-family residence on the southwest portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**

Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 11	
View of Direction of Photo: Southwest	
Description: View of the single-family residence on the southwest portion of the Site.	

Photo No. 12	
View of Direction of Photo: Southeast	
Description: View of dilapidated structure north of the single-family residence on the southwest portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**

Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 13	
View of Direction of Photo: Southwest	
Description: View of debris from former structure on the western portion of the Site.	

Photo No. 14	
View of Direction of Photo: Northwest	
Description: View of vacant metal shed on northwest portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**

Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 15	
View of Direction of Photo: South	
Description: View of north-south trending concrete pad covered with soil leading to vacant metal shed on the northwest portion of the Site.	

Photo No. 16	
View of Direction of Photo: West	
Description: View of concrete pad from former structure on west of center portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 17 **View of Direction of Photo:** Northwest **Description**: View of two small cinderblock walls on the northwest portion of the Site.	

Photo No. 18 **View of Direction of Photo:** West **Description**: View of concrete stairs from a former structure on the central portion of the Site.	

Leighton 60th Anniversary	PHOTOGRAPHIC RECORD 7/12/2021	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 19 **View of Direction of Photo:** Southeast **Description**: View of operating well servicing the single-family residence on Site and a propane tank on the western portion of the property.	

Photo No. 20 **View of Direction of Photo:** Southeast **Description**: View of pole-mounted transformer on southwest portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**

Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 21	
View of Direction of Photo: Northwest	
Description: View of creosote staining around bottom of the pole mounted transformer on the southwest portion of the Site. No visible staining in surrounding soils below the transformer.	

Photo No. 22	
View of Direction of Photo: East	
Description: View of former breakers and utility meter on southwest portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**

Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 23	
View of Direction of Photo: North	
Description: View of utility meter from former structure on west of center portion of the Site .	

Photo No. 24	
View of Direction of Photo: Northeast	
Description: View of soil stock piles on southern, east of center, portion of the Site.	

Leighton 60th Anniversary	PHOTOGRAPHIC RECORD 7/12/2021	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 25 **View of Direction of Photo:** Southeast **Description**: View of soil stock piles on southern, east of center, portion of the Site.	

Photo No. 26 **View of Direction of Photo:** North **Description**: View of soil stock piles on northern, east of center, portion of the Site.	

Leighton 60th Anniversary	PHOTOGRAPHIC RECORD 7/12/2021	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 27 **View of Direction of Photo:** West **Description**: Dumped household debris with various materials such as old furniture, a grill, wood, and general rubbish within the dilapidated structure on the western portion of the Site.	

Photo No. 28 **View of Direction of Photo:** West **Description**: View of an old air conditioning unit outside of the dilapidated structure on the western portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 29 **View of Direction of Photo:** Northeast **Description**: Dumped tire filled with soil and wood on northeast portion of the Site.	

Photo No. 30 **View of Direction of Photo:** West **Description**: View of dumped concrete on eastern portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 31 **View of Direction of Photo:** East **Description**: View of a concrete lined storm drain with spillway from Wildomar Trail on the eastern boundary of the Site.	

Photo No. 32 **View of Direction of Photo:** South **Description**: View of a concrete lined storm drain on the southeast boundary of the Site north of Clinton Keith Road.	

Leighton 60th Anniversary	PHOTOGRAPHIC RECORD 7/12/2021	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 33 **View of Direction of Photo:** North **Description**: View of a south-east-trending corrugated metal storm sewer in the dry creek in the northeast portion of the Site.	

Photo No. 34 **View of Direction of Photo:** Southwest **Description**: View of soil staining along soil stock piles on east of center portion of the Site.	

Leighton 60th Anniversary	PHOTOGRAPHIC RECORD 7/12/2021	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 35 **View of Direction of Photo:** Southeast **Description**: View of soil staining along soil stock piles on east of center portion of the Site	

Photo No. 36 **View of Direction of Photo:** East **Description**: View of older domestic well on eastern portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 37 **View of Direction of Photo:** West **Description**: View of potential irrigation pump on eastern portion of the Site.	

Photo No. 38 **View of Direction of Photo:** Southwest **Description**: View of potential abandoned irrigation piping on eastern portion of the Site.	

Leighton 60th Anniversary	PHOTOGRAPHIC RECORD 7/12/2021	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 39 **View of Direction of Photo:** North **Description**: View of potential abandoned irrigation piping on eastern portion of the Site.	

Photo No. 40 **View of Direction of Photo:** Southwest **Description**: View of large north-south trending soil stock pile on northern, east of center, portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 41 **View of Direction of Photo:** West **Description**: View along northern boundary of the Site.	

Photo No. 42 **View of Direction of Photo:** Southwest **Description**: View along Wildomar Trail on eastern boundary of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**

Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 43	
View of Direction of Photo: Northwest	
Description: View of small depression on northeast portion of the Site.	

Photo No. 44	
View of Direction of Photo: West	
Description: View of small concrete pad on northeast portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 45 **View of Direction of Photo:** North **Description**: View along dirt road in central portion of the Site.	

Photo No. 46 **View of Direction of Photo:** Northwest **Description**: Broadview of the southeast portion of the Site.	

Leighton 60th Anniversary	PHOTOGRAPHIC RECORD 7/12/2021	
Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

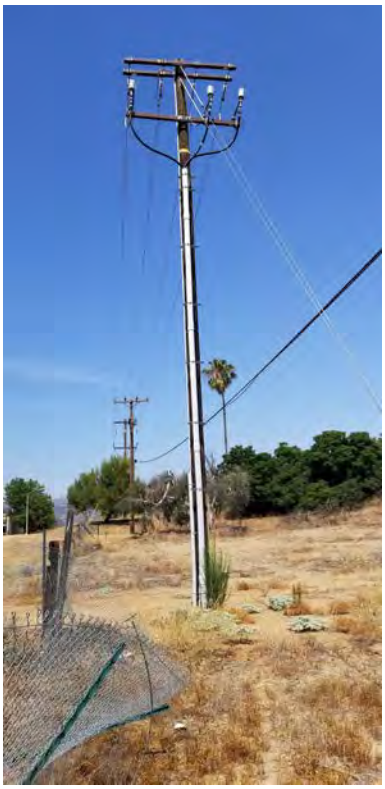
Photo No. 47 **View of Direction of Photo:** West **Description**: View of utility poles and overhead power lines along the southern boundary of the Site.	

Photo No. 48 **View of Direction of Photo:** South **Description**: View of dirt road covered in dried organic material on northwest portion of the Site.	

Leighton 60th Anniversary	**PHOTOGRAPHIC RECORD** **7/12/2021**

Client Name: **Sage Investco**	**Site Location:** **NW Corner of Clinton Keith Road and Wildomar Trail, City of Wildomar, California**	**Project No.** **13158.002**

Photo No. 49	
View of Direction of Photo: South	
Description: View of fenced off western portion of the Site and west-adjoining single family residences.	

Photo No. 50	
View of Direction of Photo: Southeast	
Description: Broad view of northwest portion of the Site.	

Appendix C
Phase I Owner and User Questionnaires

Leighton

Phase I ESA Users Questionnaire

Project Name: Wilsonart Mixed Use

Complete and Correct Address(es) of the Property and APN(s):

See "Interview" Form

User Company Name:	**User Name/Title:**
Sage Investco	Ralph Deppisch · Director of Development

User Phone/Email:

Interviewee Name and Relationship to Project:

Ralph W Deppisch - Director of Development

Site Owner: see previous

Reason Phase I is required:

Lender

Type of property:

Vacant - will be res'l + com'l

Type of property transaction (e.g., Sale, purchase, exchange):

Sale

Any scope of services beyond the ASTM Practice E 1527:

No

All Parties that will rely on the Phase I report:

Yes

Name and Contact Information for Site Contact:

Any special terms or conditions:

none I am aware of

Any other pertinent knowledge or experience with the property (e.g., prior reports, documents, correspondence concerning the environmental conditions of the property):

—

(1). Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).

Did a search of recorded land title records (or judicial records where appropriate identify any environmental liens filed or recorded against the property under federal, tribal, state or local law? Yes | (No)

If Yes, Describe:

(2). Activity and land use limitations (AULs) that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).

Did a search of recorded land title records (or judicial records where appropriate) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law? Yes | (No)

If Yes, Describe:

(3). Specialized knowledge or experience of the person seeking to qualify for the Landowners Liability Protections (LLP) (40 CFR 312.28).

Do you have any specialized knowledge or experience related to the property or the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

Yes | (No)

If Yes, Describe:

(4). Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 DRF 312.29).

Does the purchase price being paid for this property reasonably reflect the fair market value of the property?

(Yes) | No

If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property? Yes | No

If Yes, Describe: N/A

(5). Commonly known or reasonable ascertainable information about the property (40 CFR 312.30).

Are you aware of commonly known or *reasonably ascertainable* information about the property that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as user,

(a.) Do you know the past uses of the property? Vacant Yes | (No)

(b.) Do you know of specific chemicals that are present or once were present at the property? Yes | (No)

(c.) Do you know of spills or other chemical releases that have taken place at the property? Yes | (No)

(d.) Do you know of any environmental cleanups that have taken place at the property? Yes | (No)

If Yes, Describe:

(6). The degree of obviousness of the presence of likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

Based on your knowledge and experience related to the *property*, are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*? Yes | (No)

If Yes, Describe:

Raphael Deppisch
Signature

7/9/21
Date

Leighton

Phase I ESA Owner/Site Contact Interview Form

Interviewee Name:	Sam Akbarpour	**Title:**	Owner
Address:	1285 Amin Cir	**Phone:**	9516408655
Relationship to Property:	Part owner		
Name of Property Owner:	Sam Akbarpour (Damas Clinton Keith LLC) Lahn Valley LLC, Carmela Loelkes		
Address of Property Owner:	1285 Amin Cir Corona CA 92881		
Site Name:	Catt Road		
Property Address:	24850 Catt Rd Wildomar ca 92595		
Previous Street Names/Numbers:	N/A		
General Business Type/Present Property Use:	Vacant/ residential		
Property Utilization during Ownership:	Vacant ? residential		
Assessor Parcel #:	376-410-015	**Grant Total Square Footage:**	2.4 Ac
Total # of Buildings:	one	**Date Built:**	1962
Name and Address of Past Owners (include dates of ownership):	N/A		
Past Property Uses (include dates):	Vacant / Residential		
Source of Potable Water Supply (municipal/groundwater wells):	Water well		
Sewage Disposal (municipal/septic) (provide name of utility):	Septic		
Means of Heating/Cooling (gas, electric, heating oil, etc.):	Gas/ electric		
Fuel Source for Heating/Air Conditioning (provide name of utility):	SCE		
Neighboring Property Types (commercial/industrial/residential):	Commercial/ Residential		
Current Uses of Adjoining Properties:	**North:** George Street		
	South: Residential		
	East: Clinton Keith Road		
	West: Residential ial		

ARE THERE NOW, OR HAVE THERE BEEN IN THE PAST, ANY OF THESE ITEMS ONSITE OR ON ADJACENT PROPERTIES:

ITEM	YES	NO	UNK	ADJACENT PROPERTY
• Hazardous Materials		x		
• Hazardous Waste		x		
• MSDS Sheets		x		
• Underground Storage Tanks (USTs)		x		
• Aboveground Storage Tanks (ASTs)		x		
• Vent Pipes, fill pipes, or access ways indicating a fill pipe to an underground storage area		x		
• Odors		x		
• Drums		x		
• Electrical or hydraulic equipment known to contain Polychlorinated Biphenyls (PCBs)		x		
• Stained soil or surfaces		x		
• Drains		x		
• Sumps		x		
• Clarifier		x		
• Pits, ponds, or lagoons		x		
• Stressed vegetation		x		
• Areas for dumping solid waste (landfill)		x		
• Wastewater		x		
• Wells (groundwater, oil, and/or gas)	x			
• Septic Systems	x			
• Fill Material (if fill material is on site, please state source of fill)		x		

Leighton

ADDITIONAL QUESTIONS:	YES	NO	UNK	REMARKS
Has the Site been used as any of the following: gas station, motor repair facility, commercial printing facility, metal plating, dry cleaners, photo developing laboratory, junkyard, or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility? If so, state which type of facility.		x		
Are you aware of any Phase I or Phase II environmental site assessments, soil sampling reports, geotechnical or geologic reports, environmental compliance audit reports, environmental permits, registrations for USTs or ASTs, community right-to-know plans, environmental safety plans or reports regarding hazardous waste generation for the Site?		x		
Do you know of any notices or correspondence from any government agency relating to past or current violations of environmental laws with respect to the Site or relating to environmental liens encumbering the Site?		x		
Do you know of any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on or from the Site?		x		
Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?		x		
Do you know of any environmental concerns associated with the Site? If so please state in remarks column.		x		
Do you know of any environmental concerns associated with any adjacent or nearby properties? If so please state in remarks column.		x		

Additional Comments:

Preparer presents that to the best of the preparer's knowledge the above statements and facts are true and correct, and to the best of the preparer's actual knowledge no material facts have been suppressed or misstated.



Signature

07-13-21

Date

Leighton

1120

Leighton

Phase I ESA Owner/Site Contact Interview Form

Interviewee Name: IMDAD YUSUFALY **Title:** Manager

Address: 965 White Ranch Cir Corona CA 92881 **Phone:** 9513788918

Relationship to Property: Owner

Name of Property Owner: Aram Properties LLC

Address of Property Owner: 965 White Ranch Cir Corona CA 92881

Site Name:

Property Address: 24900 CATT RD, WILDOMAR CA 92595

Previous Street Names/Numbers:

General Business Type/Present Property Use:

Property Utilization during Ownership:

Assessor Parcel #: 376410016-8 **Grant Total Square Footage:** 2.4 acres

Total # of Buildings: 0 **Date Built:**

Name and Address of Past Owners (include dates of ownership):

Past Property Uses (include dates):

Source of Potable Water Supply (municipal/groundwater wells): None

Sewage Disposal (municipal/septic) (provide name of utility):

Means of Heating/Cooling (gas, electric, heating oil, etc.):

Fuel Source for Heating/Air Conditioning (provide name of utility):

Neighboring Property Types (commercial/industrial/residential):

Current Uses of Adjoining Properties: **North:**

South:

East:

West:

ARE THERE NOW, OR HAVE THERE BEEN IN THE PAST, ANY OF THESE ITEMS ONSITE OR ON ADJACENT PROPERTIES:

ITEM	YES	NO	UNK	ADJACENT PROPERTY
• Hazardous Materials		✓		
• Hazardous Waste		✓		
• MSDS Sheets		✓		
• Underground Storage Tanks (USTs)		✓		
• Aboveground Storage Tanks (ASTs)		✓		
• Vent Pipes, fill pipes, or access ways indicating a fill pipe to an underground storage area		✓		
• Odors		✓		
• Drums		✓		
• Electrical or hydraulic equipment known to contain Polychlorinated Biphenyls (PCBs)		✓		
• Stained soil or surfaces		✓		
• Drains		✓		
• Sumps		✓		
• Clarifier		✓		
• Pits, ponds, or lagoons		✓		
• Stressed vegetation		✓		
• Areas for dumping solid waste (landfill)		✓		
• Wastewater		✓		
• Wells (groundwater, oil, and/or gas)		✓		
• Septic Systems		✓		
• Fill Material (if fill material is on site, please state source of fill)		✓		

ADDITIONAL QUESTIONS:	YES	NO	UNK	REMARKS
Has the Site been used as any of the following: gas station, motor repair facility, commercial printing facility, metal plating, dry cleaners, photo developing laboratory, junkyard, or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility? If so, state which type of facility.		✓		
Are you aware of any Phase I or Phase II environmental site assessments, soil sampling reports, geotechnical or geologic reports, environmental compliance audit reports, environmental permits, registrations for USTs or ASTs, community right-to-know plans, environmental safety plans or reports regarding hazardous waste generation for the Site?		✓		
Do you know of any notices or correspondence from any government agency relating to past or current violations of environmental laws with respect to the Site or relating to environmental liens encumbering the Site?		✓		
Do you know of any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on or from the Site?		✓		
Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?		✓		
Do you know of any environmental concerns associated with the Site? If so please state in remarks column.		✓		
Do you know of any environmental concerns associated with any adjacent or nearby properties? If so please state in remarks column.		✓		

Additional Comments: Raw land that we acquired several years ago. We have not had any development on the land.

Preparer presents that to the best of the preparer's knowledge the above statements and facts are true and correct, and to the best of the preparer's actual knowledge no material facts have been suppressed or misstated.

J. Young
Signature

7/13/21
Date

Leighton

Phase I ESA Owner/Site Contact Interview Form

Interviewee Name: IMDAD YUSUFALY **Title:** Manager

Address: 965 White Ranch Cir, Corona CA 92881 **Phone:** 951 3788918

Relationship to Property: owner / manager of LLC

Name of Property Owner: ARAM PROPERTIES, LLC

Address of Property Owner: 965 WHITE RANCH CIR CORONA CA 92881

Site Name:

Property Address: 23940 CATT RD, WILDOMAR CA 9259S

Previous Street Names/Numbers:

General Business Type/Present Property Use:

Property Utilization during Ownership:

Assessor Parcel #: 376410017 **Grant Total Square Footage:** 2.4 acres

Total # of Buildings: 0 **Date Built:**

Name and Address of Past Owners (include dates of ownership):

Past Property Uses (include dates):

Source of Potable Water Supply (municipal/groundwater wells): none

Sewage Disposal (municipal/septic) (provide name of utility):

Means of Heating/Cooling (gas, electric, heating oil, etc.):

Fuel Source for Heating/Air Conditioning (provide name of utility):

Neighboring Property Types (commercial/industrial/residential):

Current Uses of Adjoining Properties: **North:**

South:

East:

West:

ARE THERE NOW, OR HAVE THERE BEEN IN THE PAST, ANY OF THESE ITEMS ONSITE OR ON ADJACENT PROPERTIES:

ITEM	YES	NO	UNK	ADJACENT PROPERTY
• Hazardous Materials		✓		
• Hazardous Waste		✓		
• MSDS Sheets		✓		
• Underground Storage Tanks (USTs)		✓		
• Aboveground Storage Tanks (ASTs)		✓		
• Vent Pipes, fill pipes, or access ways indicating a fill pipe to an underground storage area		✓		
• Odors		✓		
• Drums		✓		
• Electrical or hydraulic equipment known to contain Polychlorinated Biphenyls (PCBs)		✓		
• Stained soil or surfaces		✓		
• Drains		✓		
• Sumps		✓		
• Clarifier		✓		
• Pits, ponds, or lagoons		✓		
• Stressed vegetation		✓		
• Areas for dumping solid waste (landfill)		✓		
• Wastewater		✓		
• Wells (groundwater, oil, and/or gas)		✓		
• Septic Systems		✓		
• Fill Material (if fill material is on site, please state source of fill)		✓		

ADDITIONAL QUESTIONS:	YES	NO	UNK	REMARKS
Has the Site been used as any of the following: gas station, motor repair facility, commercial printing facility, metal plating, dry cleaners, photo developing laboratory, junkyard, or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility? If so, state which type of facility.		✓		
Are you aware of any Phase I or Phase II environmental site assessments, soil sampling reports, geotechnical or geologic reports, environmental compliance audit reports, environmental permits, registrations for USTs or ASTs, community right-to-know plans, environmental safety plans or reports regarding hazardous waste generation for the Site?		✓		
Do you know of any notices or correspondence from any government agency relating to past or current violations of environmental laws with respect to the Site or relating to environmental liens encumbering the Site?		✓		
Do you know of any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on or from the Site?		✓		
Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?		✓		
Do you know of any environmental concerns associated with the Site? If so please state in remarks column.		✓		
Do you know of any environmental concerns associated with any adjacent or nearby properties? If so please state in remarks column.		✓		

Additional Comments: Raw land acquired several years ago.

Preparer presents that to the best of the preparer's knowledge the above statements and facts are true and correct, and to the best of the preparer's actual knowledge no material facts have been suppressed or misstated.

Signature

7/13/21
Date

Leighton

Phase I ESA Owner/Site Contact Interview Form

Interviewee Name:	Sam Akbarpour	**Title:**	Owner
Address:	1285 Amin Cir	**Phone:**	9516408655
Relationship to Property:	Part owner		
Name of Property Owner:	Sam Akbarpour (Damas Clinton Keith LLC) Lahn Valley LLC, Carmela Loelkes		
Address of Property Owner:	1285 Amin Cir Corona CA 92881		
Site Name:	Catt Road		
Property Address:	24850 Catt Rd Wildomar ca 92595		
Previous Street Names/Numbers:	N/A		
General Business Type/Present Property Use:	Vacant		
Property Utilization during Ownership:	Vacant		
Assessor Parcel #:	376-410-021	**Grant Total Square Footage:**	1.76 Ac
Total # of Buildings:		**Date Built:**	
Name and Address of Past Owners (include dates of ownership):	N/A		
Past Property Uses (include dates):	Vacant		
Source of Potable Water Supply (municipal/groundwater wells):	N/A		
Sewage Disposal (municipal/septic) (provide name of utility):	N/A		
Means of Heating/Cooling (gas, electric, heating oil, etc.):	N/A		
Fuel Source for Heating/Air Conditioning (provide name of utility):	N/A		
Neighboring Property Types (commercial/industrial/residential):	Commercial/ Residential		
Current Uses of Adjoining Properties:	**North:**	George Street	
	South:	Vacant Land	
	East:	Clinton Keith Road	
	West:	Residential	

ARE THERE NOW, OR HAVE THERE BEEN IN THE PAST, ANY OF THESE ITEMS ONSITE OR ON ADJACENT PROPERTIES:

ITEM	YES	NO	UNK	ADJACENT PROPERTY
• Hazardous Materials		x		
• Hazardous Waste		x		
• MSDS Sheets		x		
• Underground Storage Tanks (USTs)		x		
• Aboveground Storage Tanks (ASTs)		x		
• Vent Pipes, fill pipes, or access ways indicating a fill pipe to an underground storage area		x		
• Odors		x		
• Drums		x		
• Electrical or hydraulic equipment known to contain Polychlorinated Biphenyls (PCBs)		x		
• Stained soil or surfaces		x		
• Drains		x		
• Sumps		x		
• Clarifier		x		
• Pits, ponds, or lagoons		x		
• Stressed vegetation		x		
• Areas for dumping solid waste (landfill)		x		
• Wastewater		x		
• Wells (groundwater, oil, and/or gas)		x		
• Septic Systems		X		
• Fill Material (if fill material is on site, please state source of fill)		x		

Leighton

ADDITIONAL QUESTIONS:	YES	NO	UNK	REMARKS
Has the Site been used as any of the following: gas station, motor repair facility, commercial printing facility, metal plating, dry cleaners, photo developing laboratory, junkyard, or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility? If so, state which type of facility.		x		
Are you aware of any Phase I or Phase II environmental site assessments, soil sampling reports, geotechnical or geologic reports, environmental compliance audit reports, environmental permits, registrations for USTs or ASTs, community right-to-know plans, environmental safety plans or reports regarding hazardous waste generation for the Site?		x		
Do you know of any notices or correspondence from any government agency relating to past or current violations of environmental laws with respect to the Site or relating to environmental liens encumbering the Site?		x		
Do you know of any pending, threatened, or past litigation or administrative proceedings relevant to hazardous substances or petroleum products in, on or from the Site?		x		
Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?		x		
Do you know of any environmental concerns associated with the Site? If so please state in remarks column.		x		
Do you know of any environmental concerns associated with any adjacent or nearby properties? If so please state in remarks column.		x		

Additional Comments:

Preparer presents that to the best of the preparer's knowledge the above statements and facts are true and correct, and to the best of the preparer's actual knowledge no material facts have been suppressed or misstated.



Signature

07-13-21

Date

Leighton

Appendix D
Environmental Lien Report

The NETR Environmental Lien and AUL Search Report

SAGE WILDOMAR
24850, 23940, 23980, AND 24900 CATT ROAD
WILDOMAR, CALIFORNIA

Tuesday, July 13, 2021

Project Number: L21-00804

2055 East Rio Salado Parkway
Tempe, Arizona 85281

Telephone: 480-967-6752
Fax: 480-966-9422

ENVIRONMENTAL LIEN AND AUL REPORT

The NETR Environmental LienSearch Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering controls and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied property information to:

- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' office, registries of deed, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved and description); and
- provide a copy of the deed or cite documents reviewed;

Thank you for your business
Please contact NETR at 480-967-6752
with any questions or comments

Disclaimer - Copyright and Trademark Notice

This report was prepared for the use of Nationwide Environmental Title Research, and Leighton and Associates, Inc., exclusively. This report is neither a guarantee of title, a commitment to insure, nor a policy of title insurance. **NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT.** Nationwide Environmental Title Research (NETR) specifically disclaims the making of any such warranties, including without limitation, merchantability or fitness for a particular use or purpose. The information contained in this report is retrieved as it is recorded from the various agencies that make it available. The total liability is limited to the fee paid for this report.

Copyright 2006 by Nationwide Environmental Title Research. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Nationwide Environmental Title Research, or its affiliates, is prohibited without prior written permission

NETR and its logos are trademarks of Nationwide Environmental Title Research or its affiliates. All other trademarks used herein are the property of their respective owners.

ENVIRONMENTAL LIEN AND AUL REPORT

The NETR Environmental Lien Search Report is intended to assist in the search for environmental liens filed in land title records.

TARGET PROPERTY INFORMATION

ADDRESS

Sage Wildomar
24850, 23940, 23980, and 24900 Catt Road
Wildomar, California

RESEARCH SOURCE

Source: Riverside County Assessor
Riverside County Recorder

DEED INFORMATION

Type of Instrument: Trust Transfer Grant Deed

Grantor: Sam Akbarpour and Zari Akbarpour, as trustee of the Sam Akbarpour and Zari Akbarpour Revocable Trust dated 12/30/2004, as to an undivided 40% interest; and TLG Clinton Keith, LLC, as to an undivided 60% interest

Grantee: DAMAS Clinton Keith LLC, as to an undivided 40% interest and TLG Clinton Keither LLC as to an undivided 60% interest

Deed Dated: 04/12/2007
Deed Recorded: 04/25/2007
Instrument: 2007-0278130

Type of Instrument: Grant Deed

Grantor: TLG Clinton Keith LLC, a California limited liability company

Grantee: Ernst L. Loelkes and Carmela Rincon Loelkes, Trustees of the Loelkes Family Trust dated 11/4/1983

Deed Dated: 10/10/2020
Deed Recorded: 10/21/2020
Instrument: 2020-0506661

Type of Instrument: Grant Deed

Grantor: Ernst L. Loelkes and Carmela Rincon Loelkes, Trustees of the Loelkes Family Trust dated 11/4/1983

Grantee: 24850-23980 Catt Rd Trust dated 11/27/2020, Lahn Valley, LLC, as Trustee

Deed Dated: 11/27/2020
Deed Recorded: 12/04/2020
Instrument: 2020-0616533

LEGAL DESCRIPTION

All that certain piece or parcel of land being Parcel 1 of Parcel Map Number 8705, according

to the map or plat thereof, as filed of record in Book 36, Page 69, Riverside County, State of California

Assessor's Parcel Number(s): 376-410-015

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AULs: Found ☐ Not Found ☒

ENVIRONMENTAL LIEN AND AUL REPORT

TARGET PROPERTY INFORMATION

ADDRESS

Sage Wildomar
24850, 23940, 23980, and 24900 Catt Road
Wildomar, California

RESEARCH SOURCE

Source: Riverside County Assessor
Riverside County Recorder

DEED INFORMATION

Type of Instrument: Grant Deed

Grantor: Norm Enterprises, LLC, a California limited liability company

Grantee: Aram Properties, LLC, a California limited liability company

Deed Dated: 08/25/2004
Deed Recorded: 09/20/2004
Instrument: 2004-0746847

LEGAL DESCRIPTION

All that certain piece or parcel of land being Parcel 2 of Parcel Map Number 8705, according to the map or plat thereof, as filed of record in Book 36, Page 69, Riverside County, State of California

Assessor's Parcel Number(s): 376-410-016

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AULs: Found ☐ Not Found ☒

ENVIRONMENTAL LIEN AND AUL REPORT

TARGET PROPERTY INFORMATION

ADDRESS

Sage Wildomar
24850, 23940, 23980, and 24900 Catt Road
Wildomar, California

RESEARCH SOURCE

Source: Riverside County Assessor
Riverside County Recorder

DEED INFORMATION

Type of Instrument: Grant Deed

Grantor: Norm Enterprises, LLC, a California limited liability company

Grantee: Aram Properties, LLC, a California limited liability company

Deed Dated: 08/25/2004
Deed Recorded: 09/20/2004
Instrument: 2004-0746846

LEGAL DESCRIPTION

All that certain piece or parcel of land being Parcel 3 of Parcel Map Number 8705, according to the map or plat thereof, as filed of record in Book 36, Page 69, Riverside County, State of California

Assessor's Parcel Number(s): 376-410-017

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AULs: Found ☐ Not Found ☒

ENVIRONMENTAL LIEN AND AUL REPORT

TARGET PROPERTY INFORMATION

ADDRESS

Sage Wildomar
24850, 23940, 23980, and 24900 Catt Road
Wildomar, California

RESEARCH SOURCE

Source: Riverside County Assessor
Riverside County Recorder

DEED INFORMATION

Type of Instrument: Trust Transfer Grant Deed

Grantor: Sam Akbarpour and Zari Akbarpour, as trustee of the Sam Akbarpour and Zari Akbarpour Revocable Trust dated 12/30/2004, as to an undivided 40% interest; and TLG Clinton Keith, LLC, as to an undivided 60% interest

Grantee: DAMAS Clinton Keith LLC, as to an undivided 40% interest and TLG Clinton Keither LLC as to an undivided 60% interest

Deed Dated: 04/12/2007
Deed Recorded: 04/25/2007
Instrument: 2007-0278128

Type of Instrument: Grant Deed

Grantor: TLG Clinton Keith LLC, a California limited liability company

Grantee: Ernst L. Loelkes and Carmela Rincon Loelkes, Trustees of the Loelkes Family Trust dated 11/4/1983

Deed Dated: 10/10/2020
Deed Recorded: 10/21/2020
Instrument: 2020-0506662

Type of Instrument: Grant Deed

Grantor: Ernst L. Loelkes and Carmela Rincon Loelkes, Trustees of the Loelkes Family Trust dated 11/4/1983

Grantee: 24850-23980 Catt Rd Trust dated 11/27/2020, Lahn Valley, LLC, as Trustee

Deed Dated: 11/27/2020
Deed Recorded: 12/04/2020
Instrument: 2020-0616532

LEGAL DESCRIPTION

All that certain piece or parcel of land being Parcel 4 of Parcel Map Number 8705, according to the map or plat thereof, as filed of record in Book 36, Page 69, Riverside County, State of California

ENVIRONMENTAL LIEN AND AUL REPORT

Assessor's Parcel Number(s): 376-410-021

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AULs: Found ☐ Not Found ☒

RECORDING REQUESTED BY:

AND WHEN RECORDED MAIL TO:

NAME ARAM PROPERTIES, LLC.

STREET ADDRESS 36243 INLAND VALLEY, # 60

CITY WILDOMAR
STATE CALIFORNIA
ZIP 92595

DOC # 2004-0746846
09/20/2004 08:00A Fee:7.00
Page 1 of 1
Recorded in Official Records
County of Riverside
Gary L. Orso
Assessor, County Clerk & Recorder

M	S	U	PAGE	SIZE	DA	PCOR	NOCOR	SMF	MISC.
	✓		1			✓			
									LA
A	R	L			COPY	LONG	REFUND	NCHG	EXAM

TRA: 065

GRANT DEED

7

M
LA

The undersigned Grantor(s) declare(s) that A.P.N: 376-410-017-9

the **DOCUMENTARY TRANSFER TAX IS** $NOT SHOWN, ON SEPARATE PAGE

____ computed on the full value of the interest of property, or

____ computed on the full value less the value of liens or encumbrances remaining thereon at the time of sale

OR transfer is **exempt** from tax **for the following reason:** The Grantors and Grantees in this conveyance are comprised of the same parties who continue to hold the same proportionate interest in the property, R & T 11923 (d).

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, **NORM ENTERPRISES, LLC., A California Limited Liability Company**

GRANT(S) to **ARAM PROPERTIES, LLC., A California Limited Liability Company**

All that real property situated in the ~~city~~ of WILDOMAR
(name of city or unincorporated area)
County of RIVERSIDE, State of CALIFORNIA, described as:

Parcel 3 of Parcel Map 8705, as shown by map on file in book 36, page 69 of parcel maps, Riverside County Records.

Dated August 25, 2004

NORM ENTERPRISES, LLC.

Imdad Yusufaly
IMDAD YUSUFALY, MEMBER

NOORDIN YUSUFALY, MEMBER

STATE OF CALIFORNIA)
) SS
COUNTY OF Orange)

On 8/25/04 before me Hong Van Thi Le
Personally appeared Imdad Yusufaly and Noorain Yusufaly
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

HONG VAN THI LE
Comm. # 1418807
NOTARY PUBLIC - CALIFORNIA
Orange County
My Comm. Expires May 18, 2007

WITNESS my hand and official seal.

Signature

(This area for official notary seal)

MAIL TAX STATEMENTS TO: ARAM PROPERTIES, LLC. 36243 INLAND VALLEY, # 60, WILDOMAR, CA 92595
NAME ADDRESS CITY STATE ZIP

RECORDING REQUESTED BY:

AND WHEN RECORDED MAIL TO:

NAME ARAM PROPERTIES, LLC.

STREET ADDRESS 36243 INLAND VALLEY, # 60

CITY WILDOMAR
STATE CALIFORNIA
ZIP 92595

DOC # 2004-0746847
09/20/2004 08:00A Fee:7.00
Page 1 of 1
Recorded in Official Records
County of Riverside
Gary L. Orso
Assessor, County Clerk & Recorder

M	S	U	PAGE	SIZE	DA	PCOR	NOCOR	SMF	MISC.
A	R	L			COPY	LONG	REFUND	NCHG	EXAM

TRA:005

GRANT DEED

The undersigned Grantor(s) declare(s) that A.P.N: 376-410-016

the **DOCUMENTARY TRANSFER TAX IS** $NOT SHOWN, ON SEPARATE PAGE

_____ computed on the full value of the interest of property, or

____ computed on the full value less the value of liens or encumbrances remaining thereon at the time of sale

OR transfer is **exempt** from tax **for the following reason:** The Grantors and Grantees in this conveyance are comprised of the same parties who continue to hold the same proportionate interest in the property, R & T 11923 (d).

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, **NORM ENTERPRISES, LLC., A California Limited Liability Company**

GRANT(S) to **ARAM PROPERTIES, LLC., A California Limited Liability Company**

All that real property situated in the ~~city~~ of WILDOMAR
(name of city or unincorporated area)
County of RIVERSIDE, State of CALIFORNIA, described as:

Parcel 2 of Parcel Map 8705 in the County of Riverside, State of California, as shown on file in Book 36, Page 69 of Parcel Maps in the office of the county recorder of said county.

Dated August 25, 2004

STATE OF CALIFORNIA)
) SS
COUNTY OF Orange

On 8/25/04 before me Hong Van Thi Le

Personally appeared Imdad Yusufaly and Noordin Yusufaly

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature

NORM ENTERPRISES, LLC.

IMDAD YUSUFALY, MEMBER

NOORDIN YUSUFALY, MEMBER

HONG VAN THI LE
Comm. # 1418807
NOTARY PUBLIC - CALIFORNIA
Orange County
My Comm. Expires May 18, 2007

(This area for official notary seal)

MAIL TAX STATEMENTS TO: ARAM PROPERTIES, LLC. 36243 INLAND VALLEY, # 60, WILDOMAR, CA 92595

NAME ADDRESS CITY STATE ZIP

WHEN RECORDED MAIL TO
AND MAIL TAX STATEMENTS TO:

Sam and Zari Akbarpour
955 Chinotto Cir,
Corona, CA 92881

DOC # 2007-0278128
04/25/2007 08:00A Fee:10.00
Page 1 of 2
Recorded in Official Records
County of Riverside
Larry W. Ward
Assessor, County Clerk & Recorder

S	R	U	PAGE	SIZE	DA	MISC	LONG	RFD	COPY
1			2						
M	A	L	465	426	PCOR	NCOR	SMF	NCHG	EXAM
									505

Title Order No.: N/A Space Above This Line TRA: 065

10

TRUST TRANSFER GRANT DEED

C
505

THE UNDERSIGNED GRANTOR(s) DECLARE(s):
DOCUMENTARY TRANSFER TAX is $ NONE. CITY TAX $ None.

- ☐ Computed on full value of property conveyed, or ☐ Computed on full value less value of liens or encumbrances remaining at time of sale or transfer.
- ☒ Unincorporated area: ☐ City of ~~Corona~~ Wildomar, and
- ☐ "This conveyance transfers the grantor's interest into his or her revocable trust, R & T 11911".
- ☐ Excluded from Reappraisal Under Proposition 13, California Constitution Article 13A § 1, et seq.
- ☐ This conveyance does not constitute a "change of ownership", R & T 62.

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, Sam Akbarpour and Zari Akbarpour, as trustee of the Sam Akbarpour and Zari Akbarpour Revocable Trust UDT dated December 30, 2004 as to an undivided 40% interest and TLG Clinton Keith, LLC. as to an undivided 60 % interest as tennats in common, hereby GRANT to;

DAMAS Clinton Keith LLC, as to an undivided 40% interest and TLG Clinton Keith, LLC. as to an undivided 60 % interest as tennats in common , the following described real property in the County of Riverside, State of California.
Parcel 4 of Parcel Map 8705 as shown by map on file in Book 36, Page 69 of Maps, in the office of the County recorder of said County.
APN 376-410-018

Dated: 4-12-07

Sam Akbarpour, Zari Akbarpour

TLG Clinton Keith LLC Carmela Loelkes

STATE OF CALIFORNIA }
COUNTY OF Riverside } S.S.
On April 11, 2007 before me, Debra I. Hellweg, a Notary Public, (here insert name and title of the officer), personally appeared Carmela Rincon Loelkes

, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that ~~he~~/she/~~they~~ executed the same in ~~his~~/her/~~their~~ authorized capacity(~~ies~~), and that by ~~his~~/her/~~their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.
WITNESS my hand and official seal.

Signature Deb- I. Hellweg

DEBRA I. HELLWEG
Commission # 1524524
Notary Public - California
Riverside County
My Comm. Expires Nov 6, 2008

EXPIRES NOV 6, 2008

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of CALIFORNIA

County of RIVERSIDE

On APRIL 12, 2007 (Date) before me, AMELIA RIGGS, NOTARY PUBLIC (Name and Title of Officer (e.g., "Jane Doe, Notary Public"))

personally appeared SAM AKBARPOUR AND ZARI AKBARPOUR (Name(s) of Signer(s))

☑ personally known to me
☐ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) ~~is~~/are subscribed to the within instrument and acknowledged to me that ~~he/she~~/they executed the same in ~~his/her~~/their authorized capacity(ies), and that by ~~his/her~~/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

AMELIA RIGGS
Commission # 1629640
Notary Public - California
Riverside County
My Comm. Expires Dec 13, 2009

WITNESS my hand and official seal.

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: TRUST TRANSFER GRANT DEED

Document Date: 4-12-07 Number of Pages: 1

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____	Signer's Name: _____
☐ Individual	☐ Individual
☐ Corporate Officer Title(s): _____	☐ Corporate Officer Title(s): _____
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Attorney-in-Fact	☐ Attorney-in-Fact
☐ Trustee	☐ Trustee
☐ Guardian or Conservator	☐ Guardian or Conservator
☐ Other: _____	☐ Other: _____
_____	_____
Signer Is Representing:	Signer Is Representing:
_____	_____
_____	_____
RIGHT THUMBPRINT OF SIGNER Top of thumb here	RIGHT THUMBPRINT OF SIGNER Top of thumb here

2007-0278128
04/25/2007 08:00A
2 of 2

© 1996 National Notary Association • 8236 Remmet Ave., P.O. Box 7184 • Canoga Park, CA 91309-7184

WHEN RECORDED MAIL TO
AND MAIL TAX STATEMENTS TO:

Sam and Zari Akbarpour
955 Chinotto Cir,
Corona, CA 92881

DOC # 2007-0278130
04/25/2007 08:00A Fee:13.00
Page 1 of 3
Recorded in Official Records
County of Riverside
Larry W. Ward
Assessor, County Clerk & Recorder

S	R	U	PAGE	SIZE	DA	MISC	LONG	RFD	COPY
1			3						
M	A	L	465	426	PCOR	NCOR	SMF	NCHG	EXAM
TRA: 065									505

13

Title Order No.: N/A Space Above This

TRUST TRANSFER GRANT DEED

C
505

THE UNDERSIGNED GRANTOR(s) DECLARE(s):
DOCUMENTARY TRANSFER TAX is $ NONE. CITY TAX $ None.
☐ Computed on full value of property conveyed, or ☐ Computed on full value less value of liens or encumbrances remaining at time of sale or transfer.
☒ Unincorporated area: ☐ City of ~~Corona~~ Wildomar, and
☐ "This conveyance transfers the grantor's interest into his or her revocable trust, R & T 11911".
☐ Excluded from Reappraisal Under Proposition 13, California Constitution Article 13A § 1, et seq.
☐ This conveyance does not constitute a "change of ownership", R & T 62.

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, Sam Akbarpour and Zari Akbarpour, as trustee of the Sam Akbarpour and Zari Akbarpour Revocable Trust UDT dated December 30, 2004 as to an undivided 40% interest and TLG Clinton Keith, LLC. as to an undivided 60 % interest as tennats in common, hereby GRANT to;

DAMAS Clinton Keith LLC, as to an undivided 40% interest and TLG Clinton Keith, LLC. as to an undivided 60 % interest as tennats in common , the following described real property in the County of Riverside, State of California.
Parcel 1 of Parcel Map 8705 as shown by map on file in Book 36, Page 69 of Maps, in the office of the County recorder of said County.
APN 376-410-015-7

Dated: 4-12-07

Sam Akbarpour, Zari Akbarpour

TLG Clinton Keith LLC, CARMELA LOELKES

STATE OF CALIFORNIA }
COUNTY OF Riverside } S.S.
On April 11, 2007 before me, Debra I. Hellweg, a Notary Public, (here insert name and title of the officer), personally appeared Carmela Rincon Loelkes

, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
WITNESS my hand and official seal.

Signature Debra I. Hellweg

DEBRA I. HELLWEG
Commission # 1524524
Notary Public - California
Riverside County
My Comm. Expires Nov 6, 2008

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of CALIFORNIA

County of RIVERSIDE

On APRIL 12, 2007 (Date) before me, AMELIA RIGGS, NOTARY PUBLIC (Name and Title of Officer (e.g., "Jane Doe, Notary Public"))

personally appeared SAM AKBARPOUR AND ZARI AKBARPOUR (Name(s) of Signer(s)),

☑ personally known to me
☐ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) ~~is/~~are subscribed to the within instrument and acknowledged to me that ~~he/she~~/they executed the same in ~~his/her~~/their authorized capacity(ies), and that by ~~his/her~~/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

AMELIA RIGGS
Commission # 1629640
Notary Public - California
Riverside County
My Comm. Expires Dec 13, 2009

WITNESS my hand and official seal.

Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: TRUST TRANSFER GRANT DEED

Document Date: APRIL 12, 2007 Number of Pages: 1

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____	Signer's Name: _____
☐ Individual	☐ Individual
☐ Corporate Officer Title(s): _____	☐ Corporate Officer Title(s): _____
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Attorney-in-Fact	☐ Attorney-in-Fact
☐ Trustee	☐ Trustee
☐ Guardian or Conservator	☐ Guardian or Conservator
☐ Other: _____	☐ Other: _____
_____	_____
Signer Is Representing:	Signer Is Representing:
_____	_____
_____	_____
RIGHT THUMBPRINT OF SIGNER Top of thumb here	RIGHT THUMBPRINT OF SIGNER Top of thumb here

2007-0278130
04/25/2007 08:00A
2 of 3

© 1996 National Notary Association • 8236 Remmet Ave., P.O. Box 7184 • Canoga Park, CA 91309-7184 Prod. No. 5907 Reorder: Call Toll-Free 1-800-876-6827

LARRY W. WARD
COUNTY OF RIVERSIDE
ASSESSOR-COUNTY CLERK-RECORDER

Recorder
P.O. Box 751
Riverside, CA 92502-0751
(951) 486-7000

www.riversideacr.com

CERTIFICATION

Pursuant to the provisions of Government Code 27361.7, I certify under the penalty of perjury that the following is a true copy of illegible wording found in the attached document:

(Print or type the page number(s) and wording below):

2007-0278130
04/25/2007 08:00A
3 of 3

ENTITY UPON behalf which the

Date: 4-25-07

Signature: [signature]

Print Name: Sam Akbaryour

RECORDING REQUESTED BY

C R L

AND WHEN RECORDED MAIL DOCUMENT TO:

C R LOELKES
P O BOX 613
MURRIETA, CA 92564

2020-0506661
10/21/2020 12:48 PM Fee: $ 105.00
Page 1 of 3
Recorded in Official Records
County of Riverside
Peter Aldana
Assessor-County Clerk-Recorder

983

Space Above This Line for Recorder's Use Only

A.P.N.: 376-410-015-7 File No.: N/A

GRANT DEED

The Undersigned Grantor(s) declare(s): DOCUMENTARY TRANSFER TAX $0.00; CITY TRANSFER TAX $0.00; SURVEY MONUMENT FEE $ 0.00

This conveyance transfers Grantor's interest into or out of his/her revocable trust and is EXEMPT from the imposition of the Documentary Transfer Tax pursuant to § 11930 of the Revenue and Taxation Code.

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

TLG CLINTON KEITH LLC, A CALIFORNIA LIMITED LIABILITY COMPANY

hereby GRANT(s) to

ERNST L. LOELKES AND CARMELA RINCON LOELKES, TRUSTEES, OR THEIR SUCCESSORS IN INTEREST, OF THE LOELKES FAMILY TRUST DATED NOVEMBER 4, 1983, AND ANY AMENDMENT THERETO, THEIR UNDIVIDED 60% INTEREST.

the following described property in the City of WILDOMAR, County of RIVERSIDE,

State of **California**:

See Exhibit A attached hereto for legal description.

Dated: 10/10/2020

TLG Clinton Keith LLC a California Limited Liability Co.

ERNST L. LOELKES, TRUSTEE

CARMELA RINCON LOELKES, TRUSTEE

Mail Tax Statements To: **SAME AS ABOVE**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF California)SS
COUNTY OF Riverside)

On October 20, 2020, before me, Geoffery Rice, Notary Public, personally appeared Ernst L. Loelkes and Carmela Rincon Loelkes, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

GEOFFERY RICE
Notary Public - California
Riverside County
Commission # 2305172
My Comm. Expires Sep 14, 2023

This area for official notarial seal

EXHIBIT "A"
LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 1 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN – 376-410-015-7
24850 CATT RD

RECORDING REQUESTED BY

C R L

AND WHEN RECORDED MAIL DOCUMENT TO:

C R LOELKES
P O BOX 613
MURRIETA, CA 92564

2020-0506662

10/21/2020 12:48 PM Fee: $ 105.00

Page 1 of 3

Recorded in Official Records
County of Riverside
Peter Aldana
Assessor-County Clerk-Recorder

Space Above This Line for Recorder's Use Only 983

A.P.N.: 376-410-021 File No.: N/A

GRANT DEED

The Undersigned Grantor(s) declare(s): DOCUMENTARY TRANSFER TAX $0.00; CITY TRANSFER TAX $0.00; SURVEY MONUMENT FEE $ 0.00

This conveyance transfers Grantor's interest into or out of his/her revocable trust and is EXEMPT from the imposition of the Documentary Transfer Tax pursuant to § 11930 of the Revenue and Taxation Code.

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

TLG CLINTON KEITH LLC, A CALIFORNIA LIMITED LIABILITY COMPANY

hereby GRANT(s) to

ERNST L. LOELKES AND CARMELA RINCON LOELKES, TRUSTEES, OR THEIR SUCCESSORS IN INTEREST, OF THE LOELKES FAMILY TRUST DATED NOVEMBER 4, 1983, AND ANY AMENDMENT THERETO, THEIR UNDIVIDED 60% INTEREST.

the following described property in the City of WILDOMAR, County of RIVERSIDE,

State of **California**:

See Exhibit A attached hereto for legal description.

Dated: 10/10/2020

TLG Clinton Keith LLC a California Limited Liability Company

Ernst L Loelkes

ERNST L. LOELKES, TRUSTEE

C R Loelkes

CARMELA RINCON LOELKES, TRUSTEE

Mail Tax Statements To: **SAME AS ABOVE**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF California)SS
COUNTY OF Riverside)

On October 20, 2020, before me, Geoffery Rice, Notary Public, personally appeared Ernest L. Loelkes and Carmela Rican Loelkes, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

GEOFFERY RICE
Notary Public - California
Riverside County
Commission # 2305172
My Comm. Expires Sep 14, 2023

This area for official notarial seal

EXHIBIT "A"
LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 4 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN – 376-410-021
23980 CATT RD

RECORDING REQUESTED BY

24850-23980 Catt Rd Trust

AND WHEN RECORDED MAIL DOCUMENT TO:

24850-23980 Catt Rd Trust
3225 McLeod Drive, Suite 777
Las Vegas, NV 89121

2020-0616532

12/04/2020 01:56 PM Fee: $ 105.00

Page 1 of 3

Recorded in Official Records
County of Riverside
Peter Aldana
Assessor-County Clerk-Recorder

562

Space Above This Line for Recorder's Use Only

A.P.N.: 376-410-021

File No.: N/A

GRANT DEED

The Undersigned Grantor(s) declare(s): DOCUMENTARY TRANSFER TAX $ 0.00 ; CITY TRANSFER TAX $ 0.00 ; SURVEY MONUMENT FEE $ 0.00

This conveyance transfers Grantor's interest into or out of his/her revocable trust and is EXEMPT from the imposition of the Documentary Transfer Tax pursuant to § 11930 of the Revenue and Taxation Code.

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

Ernst L. Loelkes and Carmela Rincon Loelkes, Trustees or successor in interest of The Loelkes Family Trust dated November 4, 1983, and any amendment thereto their undivided 60% interest.

hereby GRANT(s) to

24850-23980 Catt Rd Trust dated November 27, 2020, Lahn Valley, LLC a Wyoming limited liability company, its successor or successors in interest, as Trustee.

the following described property in the City of Wildomar , County of Riverside ,

State of **California:**

See Exhibit A attached hereto for legal description.

Dated: November 27, 2020

Ernst L. Loelkes, Trustee

Carmela Rincon Loelkes, Trustee

The Loelkes Family Trust dtd 11/4/83

Mail Tax Statements To: **SAME AS ABOVE**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF California)SS
COUNTY OF Riverside)

On 11/27/2020, before me, Jonathan Patrick Mutia, Notary Public, personally appeared Ernst L Loelkes and Carmela Rincon Loelkes, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/she/~~they~~ executed the same in his/her/~~their~~ authorized capacity(ies), and that by his/her/~~their~~ signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

JONATHAN PATRICK MUTIA
Notary Public - California
Orange County
Commission # 2278268
My Comm[illegible]pires Feb 22, 2023

This area for official notarial seal

EXHIBIT "A"
LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 4 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN – 376-410-021
23980 CATT RD

RECORDING REQUESTED BY

24850-23980 Catt Rd Trust

AND WHEN RECORDED MAIL DOCUMENT TO:

24850-23980 Catt Rd Trust
3225 McLeod Drive, Suite 777
Las Vegas, NV 89121

2020-0616533

12/04/2020 01:56 PM Fee: $ 105.00

Page 1 of 3

Recorded in Official Records
County of Riverside
Peter Aldana
Assessor-County Clerk-Recorder

562

Space Above This Line for Recorder's Use Only

A.P.N.: 376-410-015

File No.: N/A

GRANT DEED

The Undersigned Grantor(s) declare(s): DOCUMENTARY TRANSFER TAX $ 0.00 ; CITY TRANSFER TAX $ 0.00 ; SURVEY MONUMENT FEE $ 0.00

This conveyance transfers Grantor's interest into or out of his/her revocable trust and is EXEMPT from the imposition of the Documentary Transfer Tax pursuant to § 11930 of the Revenue and Taxation Code.

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

Ernst L. Loelkes and Carmela Rincon Loelkes, Trustees or successor in interest of The Loelkes Family Trust dated November 4, 1983, and any amendment thereto their undivided 60% interest.

hereby GRANT(s) to

24850-23980 Catt Rd Trust dated November 27, 2020, Lahn Valley, LLC a Wyoming limited liability company, its successor or successors in interest, as Trustee.

the following described property in the City of Wildomar , County of Riverside ,

State of **California:**

See Exhibit A attached hereto for legal description.

Dated: November 27, 2020

Ernst L. Loelkes, Trustee

Carmela Rincon Loelkes, Trustee

The Loelkes Family Trust dtd 11/4/83

Mail Tax Statements To: **SAME AS ABOVE**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF California)SS
COUNTY OF Riverside)

On 11/27/2020, before me, Jonathan Patrick Mutia, Notary Public, personally appeared Ernst C Loelkes and Carmela Rincon Loelkes, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature

JONATHAN PATRICK MUTIA
Notary Public - California
Orange County
Commission # 2278268
My Comm. Expires Feb 22, 2023

This area for official notarial seal

EXHIBIT "A"
LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 1 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN – 376-410-015-7
24850 CATT RD

Appendix E
Environmental Database Search & Physical Settings Reports

Sage Wildomar Phase I ESA
NW Corner of Clinton Keith Rd and Wildomar Trail
WILDOMAR, CA 92595

Inquiry Number: 6571762.2s
July 12, 2021

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	9
Orphan Summary	172
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting SSURGO Soil Map	A-5
Physical Setting Source Map	A-15
Physical Setting Source Map Findings	A-17
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

NW CORNER OF CLINTON KEITH RD AND WILDOMAR TRAIL
WILDOMAR, CA 92595

COORDINATES

Latitude (North):	33.5986940 - 33° 35' 55.29''
Longitude (West):	117.2419020 - 117° 14' 30.84''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	477555.8
UTM Y (Meters):	3717494.5
Elevation:	1345 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5641304 MURRIETA, CA
Version Date:	2012
Southwest Map:	5636487 WILDOMAR, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140603
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
NW CORNER OF CLINTON KEITH RD AND WILDOMAR TRAIL
WILDOMAR, CA 92595

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	TESORO USA 68238	23905 CATT RD	CERS HAZ WASTE, CERS TANKS, HAZNET, CERS, HWTS	Lower	169, 0.032, SW
A2	TESORO WEST COAST CO	23905 CATT RD	RCRA-SQG, FINDS	Lower	169, 0.032, SW
A3	TESORO SIERRA PROPER	23905 CATT RD	RCRA NonGen / NLR	Lower	169, 0.032, SW
A4	TESORO (SPEEDWAY) 68	23905 CATT RD	UST	Lower	169, 0.032, SW
A5	ANDONDIAN ENTERPRISE	23885 CLINTON KEITH	CERS HAZ WASTE, HAZNET, CERS, HWTS	Lower	253, 0.048, SSW
A6	ANDONDIAN ENTERPRISE	23885 CLINTON KEITH	RCRA NonGen / NLR	Lower	253, 0.048, SSW
A7	WILDOMAR ACE HARDWAR	23881 CLINTON KEITH	RCRA NonGen / NLR	Lower	261, 0.049, SSW
B8	PROMPT CLEANERS	23905 CLINTON KEITH	EDR Hist Cleaner	Lower	462, 0.087, South
B9	LAGUNA BEACH DENTAL	23905 CLINTON KEITH	CERS HAZ WASTE, HWTS	Lower	462, 0.087, South
B10	PROMPT CLEANERS, OK	23905 CLINTON KEITH	DRYCLEANERS, HAZNET, HWTS	Lower	462, 0.087, South
B11	PROMPT CLEANERS	23905 CLINTON KEITH	RCRA NonGen / NLR	Lower	462, 0.087, South
B12	PROMPT CLEANERS	23905 CLINTON KEITH	DRYCLEANERS	Lower	462, 0.087, South
C13	KA MANAGEMENT INC DB	23805 CLINTON KEITH	RCRA NonGen / NLR	Lower	532, 0.101, SSW
C14	KA MANAGEMENT INC DB	23805 CLINTON KEITH	CERS HAZ WASTE, CERS TANKS, HAZNET, CERS, HWTS	Lower	532, 0.101, SSW
C15	SHELL OIL PRODUCTS U	23805 CLINTON KEITH	UST	Lower	532, 0.101, SSW
C16	EQUILON ENTERPRISES	23805 CLINTON KEITH	RCRA NonGen / NLR	Lower	532, 0.101, SSW
C17	K A MANGEMENT	23805 CLINTON KEITH	EDR Hist Auto	Lower	532, 0.101, SSW
C18	CLINTON KEITH SHELL	23805 CLINTON KEITH	UST	Lower	532, 0.101, SSW
B19	ALBERTSON'S # 6735	23893 CLINTON KEITH	RCRA NonGen / NLR	Lower	734, 0.139, South
B20	ALBERTSON'S # 6735	23893 CLINTON KEITH	CERS HAZ WASTE, HAZNET, CERS, HWTS	Lower	734, 0.139, South
21	BEAR CREEK DENTAL GR	36068 HIDDEN SPRINGS	RCRA NonGen / NLR	Lower	1240, 0.235, WSW
D22	INLAND VALLEY REGION	36485 INLAND VALLEY	LUST, UST, SWEEPS UST	Lower	2450, 0.464, SSE
D23	INLAND VALLEY REGION	36485 INLAND VALLEY	LUST, CERS HAZ WASTE, CERS TANKS, Cortese, EMI,...	Lower	2450, 0.464, SSE
24	ELEMENTARY SCHOOL NO	LA ESTRELLA ROAD/GEO	ENVIROSTOR, SCH	Higher	4447, 0.842, NW
25	DONALD GRAHAM MEDICA	35450 FREDERICK STRE	ENVIROSTOR, SCH, HAZNET, CERS, HWTS	Lower	4963, 0.940, WNW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-VSQG ---------- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List

US INST CONTROLS..... Institutional Controls Sites List

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
CPS-SLIC..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT..... Waste Management Unit Database
SWRCY..... Recycler Database
HAULERS..... Registered Waste Tire Haulers Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
ODI..... Open Dump Inventory
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register
HIST Cal-Sites..... Historical Calsites Database

SCH ..... School Property Evaluation Program
CDL ..... Clandestine Drug Labs
Toxic Pits ..... Toxic Pits Cleanup Act Sites
US CDL ..... National Clandestine Laboratory Register
PFAS ..... PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

SWEEPS UST ..... SWEEPS UST Listing
HIST UST ..... Hazardous Substance Storage Container Database
CA FID UST ..... Facility Inventory Database

Local Land Records

LIENS ..... Environmental Liens Listing
LIENS 2 ..... CERCLA Lien Information
DEED ..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
CHMIRS ..... California Hazardous Material Incident Report System
LDS ..... Land Disposal Sites Listing
MCS ..... Military Cleanup Sites Listing
SPILLS 90 ..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS ..... Formerly Used Defense Sites
DOD ..... Department of Defense Sites
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ..... Financial Assurance Information
EPA WATCH LIST ..... EPA WATCH LIST
2020 COR ACTION ..... 2020 Corrective Action Program List
TSCA ..... Toxic Substances Control Act
TRIS ..... Toxic Chemical Release Inventory System
SSTS ..... Section 7 Tracking Systems
ROD ..... Records Of Decision
RMP ..... Risk Management Plans
RAATS ..... RCRA Administrative Action Tracking System
PRP ..... Potentially Responsible Parties
PADS ..... PCB Activity Database System
ICIS ..... Integrated Compliance Information System
FTTS ..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ..... Material Licensing Tracking System
COAL ASH DOE ..... Steam-Electric Plant Operation Data
COAL ASH EPA ..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ..... PCB Transformer Registration Database
RADINFO ..... Radiation Information Database
HIST FTTS ..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ..... Incident and Accident Data
CONSENT ..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV ..... Indian Reservations
FUSRAP ..... Formerly Utilized Sites Remedial Action Program

UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
ABANDONED MINES ---- Abandoned Mines
FINDS ---- Facility Index System/Facility Registry System
UXO ---- Unexploded Ordnance Sites
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
ECHO ---- Enforcement & Compliance History Information
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
CA BOND EXP. PLAN ---- Bond Expenditure Plan
CUPA Listings ---- CUPA Resources List
EMI ---- Emissions Inventory Data
ENF ---- Enforcement Action Listing
Financial Assurance ---- Financial Assurance Information Listing
HAZNET ---- Facility and Manifest Data
ICE ---- ICE
HIST CORTESE ---- Hazardous Waste & Substance Site List
HWP ---- EnviroStor Permitted Facilities Listing
HWT ---- Registered Hazardous Waste Transporter Database
MINES ---- Mines Site Location Listing
MWMP ---- Medical Waste Management Program Listing
NPDES ---- NPDES Permits Listing
PEST LIC ---- Pesticide Regulation Licenses Listing
PROC ---- Certified Processors Database
Notify 65 ---- Proposition 65 Records
UIC ---- UIC Listing
UIC GEO ---- UIC GEO (GEOTRACKER)
WASTEWATER PITS ---- Oil Wastewater Pits Listing
WDS ---- Waste Discharge System
WIP ---- Well Investigation Program Case List
MILITARY PRIV SITES ---- MILITARY PRIV SITES (GEOTRACKER)
PROJECT ---- PROJECT (GEOTRACKER)
WDR ---- Waste Discharge Requirements Listing
CIWQS ---- California Integrated Water Quality System
CERS ---- CERS
NON-CASE INFO ---- NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS ---- OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS ---- PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT ---- SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ ---- Well Stimulation Project (GEOTRACKER)
MINES MRDS ---- Mineral Resources Data System
HWTS ---- Hazardous Waste Tracking System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---- Recovered Government Archive Solid Waste Facilities List

EXECUTIVE SUMMARY

RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 03/22/2021 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TESORO WEST COAST CO EPA ID:: CAR000144287	***23905 CATT RD***	***SW 0 - 1/8 (0.032 mi.)***	***A2***	***48***

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/25/2021 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ELEMENTARY SCHOOL NO	***LA ESTRELLA ROAD/GEO***	***NW 1/2 - 1 (0.842 mi.)***	***24***	***163***

Facility Id: 33650001
Status: No Action Required

Lower Elevation	Address	Direction / Distance	Map ID	Page
DONALD GRAHAM MEDICA	***35450 FREDERICK STRE***	***WNW 1/2 - 1 (0.940 mi.)***	***25***	***166***
Facility Id: 60000994 Status: No Action Required				

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 2 LUST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
INLAND VALLEY REGION	***36485 INLAND VALLEY***	***SSE 1/4 - 1/2 (0.464 mi.)***	***D22***	***149***
Database: LUST REG 8, Date of Government Version: 02/14/2005 Facility Status: Leak being confirmed Global ID: T0606599143				
INLAND VALLEY REGION	***36485 INLAND VALLEY***	***SSE 1/4 - 1/2 (0.464 mi.)***	***D23***	***151***
Database: RIVERSIDE CO. LUST, Date of Government Version: 01/13/2021 Database: LUST REG 9, Date of Government Version: 03/01/2001 Database: LUST, Date of Government Version: 03/08/2021 Status: Completed - Case Closed Facility Status: 0 Status: Preliminary site assessment workplan submitted Facility Id: 9915433 Global Id: T0606599184 Case Number: 9UT3960				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there are 3 UST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TESORO (SPEEDWAY) 68	23905 CATT RD	SW 0 - 1/8 (0.032 mi.)	A4	54
Database: RIVERSIDE CO. UST, Date of Government Version: 01/13/2021 Database: UST, Date of Government Version: 03/08/2021 Facility Id: FA0023219				
SHELL OIL PRODUCTS U	23805 CLINTON KEITH	SSW 0 - 1/8 (0.101 mi.)	C15	112
Database: UST, Date of Government Version: 03/08/2021				

Facility Id: FA0022828

CLINTON KEITH SHELL	23805 CLINTON KEITH	SSW 0 - 1/8 (0.101 mi.)	C18	116

Database: RIVERSIDE CO. UST, Date of Government Version: 01/13/2021
Database: UST, Date of Government Version: 03/08/2021
Facility Id: FA0022828

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Hazardous waste / Contaminated Sites

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 04/19/2021 has revealed that there are 5 CERS HAZ WASTE sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TESORO USA 68238	***23905 CATT RD***	***SW 0 - 1/8 (0.032 mi.)***	***A1***	***9***
ANDONDIAN ENTERPRISE	***23885 CLINTON KEITH***	***SSW 0 - 1/8 (0.048 mi.)***	***A5***	***55***
LAGUNA BEACH DENTAL	***23905 CLINTON KEITH***	***S 0 - 1/8 (0.087 mi.)***	***B9***	***66***
KA MANAGEMENT INC DB	***23805 CLINTON KEITH***	***SSW 0 - 1/8 (0.101 mi.)***	***C14***	***85***
ALBERTSON'S # 6735	***23893 CLINTON KEITH***	***S 1/8 - 1/4 (0.139 mi.)***	***B20***	***119***

Local Lists of Registered Storage Tanks

CERS TANKS: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

A review of the CERS TANKS list, as provided by EDR, and dated 04/19/2021 has revealed that there are 2 CERS TANKS sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TESORO USA 68238	***23905 CATT RD***	***SW 0 - 1/8 (0.032 mi.)***	***A1***	***9***
KA MANAGEMENT INC DB	***23805 CLINTON KEITH***	***SSW 0 - 1/8 (0.101 mi.)***	***C14***	***85***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 03/22/2021 has revealed that

there are 8 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TESORO SIERRA PROPER	23905 CATT RD	SW 0 - 1/8 (0.032 mi.)	A3	52
ANDONDIAN ENTERPRISE EPA ID:: CAL000412957	23885 CLINTON KEITH	SSW 0 - 1/8 (0.048 mi.)	A6	61
WILDOMAR ACE HARDWAR EPA ID:: CAC002994056	23881 CLINTON KEITH	SSW 0 - 1/8 (0.049 mi.)	A7	64
PROMPT CLEANERS EPA ID:: CAL000265634	23905 CLINTON KEITH	S 0 - 1/8 (0.087 mi.)	B11	80
KA MANAGEMENT INC DB EPA ID:: CAL000263268	23805 CLINTON KEITH	SSW 0 - 1/8 (0.101 mi.)	C13	83
EQUILON ENTERPRISES	23805 CLINTON KEITH	SSW 0 - 1/8 (0.101 mi.)	C16	113
ALBERTSON'S # 6735 EPA ID:: CAL000384634	23893 CLINTON KEITH	S 1/8 - 1/4 (0.139 mi.)	B19	116
BEAR CREEK DENTAL GR EPA ID:: CAL000417246	36068 HIDDEN SPRINGS	WSW 1/8 - 1/4 (0.235 mi.)	21	146

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 03/22/2021 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
INLAND VALLEY REGION Cleanup Status: COMPLETED - CASE CLOSED	***36485 INLAND VALLEY***	***SSE 1/4 - 1/2 (0.464 mi.)***	***D23***	***151***

DRYCLEANERS: A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaners' agents; linen supply; coin-operated laundries and cleaning; drycleaning plants except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

A review of the DRYCLEANERS list, as provided by EDR, has revealed that there are 2 DRYCLEANERS sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
PROMPT CLEANERS, OK Database: DRYCLEAN SOUTH COAST, Date of Government Version: 02/23/2021	***23905 CLINTON KEITH***	***S 0 - 1/8 (0.087 mi.)***	***B10***	***74***
PROMPT CLEANERS Database: DRYCLEANERS, Date of Government Version: 03/01/2021 EPA Id: CAL000265634	23905 CLINTON KEITH	S 0 - 1/8 (0.087 mi.)	B12	82

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there is 1 EDR Hist Auto site within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
K A MANGEMENT	23805 CLINTON KEITH	SSW 0 - 1/8 (0.101 mi.)	C17	115

EDR Hist Cleaner: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Cleaner list, as provided by EDR, has revealed that there is 1 EDR Hist Cleaner site within approximately 0.125 miles of the target property.

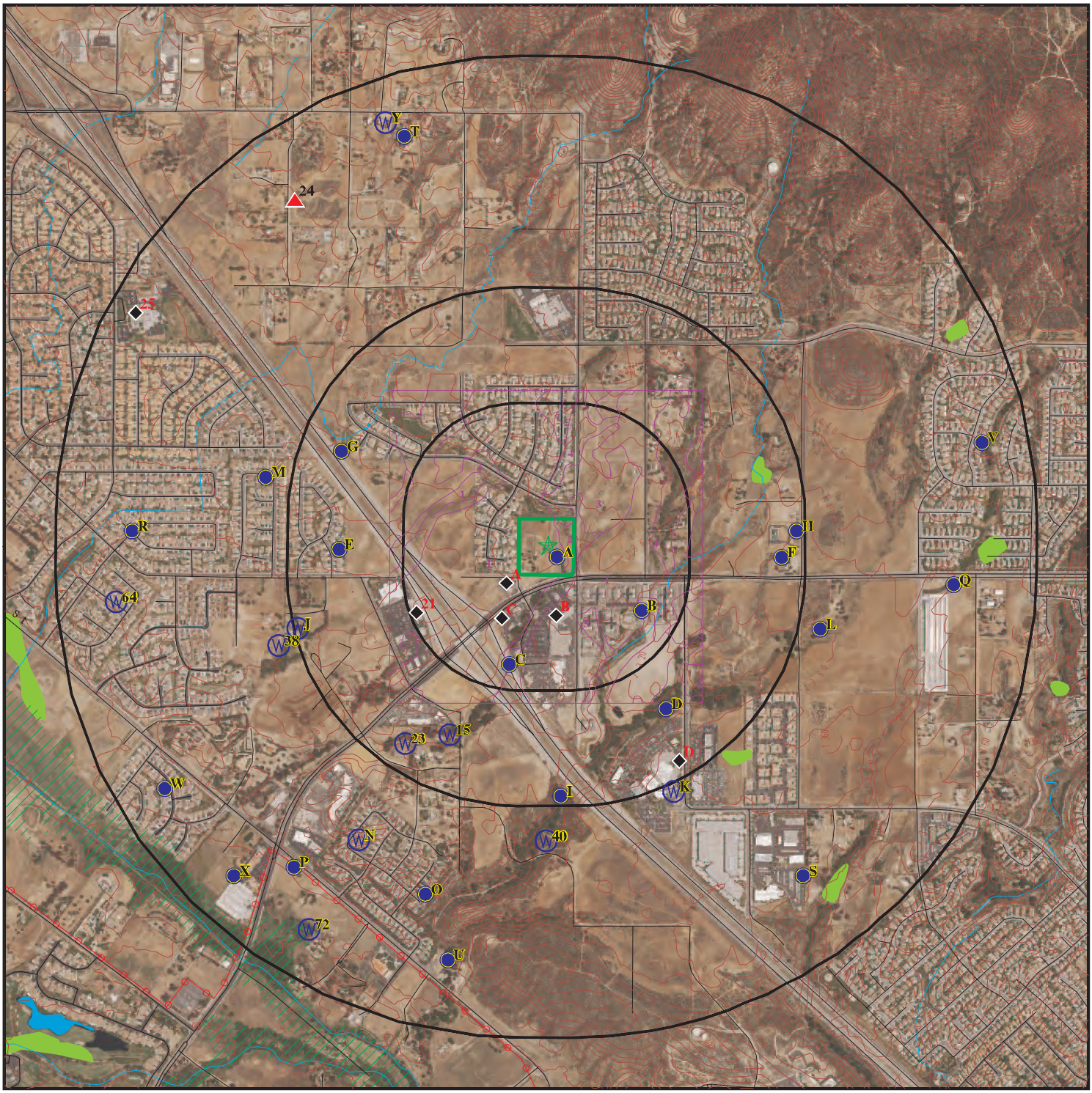
Lower Elevation	Address	Direction / Distance	Map ID	Page
PROMPT CLEANERS	23905 CLINTON KEITH	S 0 - 1/8 (0.087 mi.)	B8	66

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 2 records.

Site Name	Database(s)
	CDL
	CDL

OVERVIEW MAP - 6571762.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Sage Wildomar Phase I ESA	CLIENT:	Leighton and Associates, Inc.
ADDRESS:	NW Corner of Clinton Keith Rd and Wildomar Trail WILDOMAR CA 92595	CONTACT:	Tracy Roberts
LAT/LONG:	33.598694 / 117.241902	INQUIRY #:	6571762.2s
		DATE:	July 12, 2021 1:53 pm

Copyright © 2021 EDR, Inc. © 2015 TomTom Rel. 2015.

DETAIL MAP - 6571762.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Sage Wildomar Phase I ESA	CLIENT:	Leighton and Associates, Inc.
ADDRESS:	NW Corner of Clinton Keith Rd and Wildomar Trail WILDOMAR CA 92595	CONTACT:	Tracy Roberts
		INQUIRY #:	6571762.2s
LAT/LONG:	33.598694 / 117.241902	DATE:	July 12, 2021 1:55 pm

Copyright © 2021 EDR, Inc. © 2015 TomTom Rel. 2015.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		1	0	NR	NR	NR	1
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	2	NR	2
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	2	NR	NR	2

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		3	0	NR	NR	NR	3
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		4	1	NR	NR	NR	5
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		2	0	NR	NR	NR	2
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		6	2	NR	NR	NR	8
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	1	NR	NR	1
CUPA Listings	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		2	0	NR	NR	NR	2
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001		0	NR	NR	NR	NR	0
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		1	NR	NR	NR	NR	1
EDR Hist Cleaner	0.125		1	NR	NR	NR	NR	1
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	20	3	3	2	0	28

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **TESORO USA 68238** **CERS HAZ WASTE** **S113177276**
SW **23905 CATT RD** **CERS TANKS** **N/A**
< 1/8 **WILDOMAR, CA 92595** **HAZNET**
0.032 mi. **CERS**
169 ft. **Site 1 of 7 in cluster A** **HWTS**

Relative:
Lower

Actual:
1337 ft.

CERS HAZ WASTE:
Name: TESORO (SPEEDWAY) 68238
Address: 23905 CATT RD
City,State,Zip: WILDOMAR, CA 92595
Site ID: 74628
CERS ID: 10321810
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: TESORO (SPEEDWAY) 68238
Address: 23905 CATT RD
City,State,Zip: WILDOMAR, CA 92595
Site ID: 74628
CERS ID: 10321810
CERS Description: Underground Storage Tank

HAZNET:
Name: TESORO USA 68238
Address: 23905 CATT RD
Address 2: Not reported
City,State,Zip: WILDOMAR, CA 78259
Contact: BRENDA RAMIREZ
Telephone: 2106265153
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY

Year: 2019
Gepaid: CAR000144287
TSD EPA ID: CAT080013352
CA Waste Code: 134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method: H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons: 0.16800

Year: 2019
Gepaid: CAR000144287
TSD EPA ID: NVT330010000
CA Waste Code: 352 - Other organic solids
Disposal Method: H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons: 0.19500

Year: 2018
Gepaid: CAR000144287
TSD EPA ID: NVT330010000
CA Waste Code: 352 - Other organic solids
Disposal Method: H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons: 0.09500

Year: 2018

TESORO USA 68238 (Continued) **S113177276**

Gepaid:	CAR000144287
TSD EPA ID:	CAT080013352
CA Waste Code:	134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.23100
Year:	2017
Gepaid:	CAR000144287
TSD EPA ID:	CAT080013352
CA Waste Code:	134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.126
Year:	2017
Gepaid:	CAR000144287
TSD EPA ID:	NVT330010000
CA Waste Code:	352 - Other organic solids
Disposal Method:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.1775
Year:	2016
Gepaid:	CAR000144287
TSD EPA ID:	NVT330010000
CA Waste Code:	352 - Other organic solids
Disposal Method:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.2125
Year:	2016
Gepaid:	CAR000144287
TSD EPA ID:	CAT080013352
CA Waste Code:	134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.021
Year:	2015
Gepaid:	CAR000144287
TSD EPA ID:	CAT080013352
CA Waste Code:	134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.861
Year:	2015
Gepaid:	CAR000144287
TSD EPA ID:	NVT330010000
CA Waste Code:	352 - Other organic solids
Disposal Method:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)

TESORO USA 68238 (Continued) **S113177276**

Tons: 0.1325

Click this hyperlink while viewing on your computer to access
25 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:
Year: 2003
Gen EPA ID: CAR000144287

Shipment Date: 20031012
Creation Date: 8/5/2004 10:07:02
Receipt Date: 20031016
Manifest ID: 22850379
Trans EPA ID: CAD983584681
Trans Name: BELSHIRE ENVIRONMENTAL SVS
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAT080013352
Trans Name: DEMENNO KERDOON
TSDF Alt EPA ID: CAT080013352
TSDF Alt Name: Not reported
Waste Code Description: 134 - Aqueous solution with <10% total organic residues
RCRA Code: Not reported
Meth Code: R01 - Recycler
Quantity Tons: 2.1
Waste Quantity: 500
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Additional Info:
Year: 2006
Gen EPA ID: CAR000144287

Shipment Date: 20060815
Creation Date: 10/25/2006 18:31:09
Receipt Date: 20060818
Manifest ID: 24862803
Trans EPA ID: CAR000165175
Trans Name: BELSHIRE ENVIRONMENTAL SVCS
Trans 2 EPA ID: OKD981588791
Trans 2 Name: TRIAD TRANSPORT
TSDF EPA ID: NVT330010000
Trans Name: US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 352 - Other organic solids
RCRA Code: Not reported
Meth Code: D80 - Disposal, Land Fill
Quantity Tons: 0.1
Waste Quantity: 200
Quantity Unit: P

TESORO USA 68238 (Continued) **S113177276**

Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20060815
Creation Date:	11/21/2006 18:30:19
Receipt Date:	20060816
Manifest ID:	24747753
Trans EPA ID:	CAR000165175
Trans Name:	BELSHIRE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	1.26
Waste Quantity:	300
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20060815
Creation Date:	11/21/2006 18:30:19
Receipt Date:	20060816
Manifest ID:	24747753
Trans EPA ID:	CAR000165175
Trans Name:	BELSHIRE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	221 - Waste oil and mixed oil
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.019
Waste Quantity:	5
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20060815
Creation Date:	11/21/2006 18:30:19
Receipt Date:	20060816

TESORO USA 68238 (Continued) **S113177276**

Manifest ID:	24747753
Trans EPA ID:	CAR000165175
Trans Name:	BELSHIRE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	0.42
Waste Quantity:	100
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20060710
Creation Date:	9/28/2006 18:30:56
Receipt Date:	20060712
Manifest ID:	25171306
Trans EPA ID:	CAR000165175
Trans Name:	BELSHIRE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	R01 - Recycler
Quantity Tons:	2.1
Waste Quantity:	500
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2014
Gen EPA ID:	CAR000144287

Shipment Date:	20141104
Creation Date:	5/27/2015 22:15:25
Receipt Date:	20141105
Manifest ID:	007639474FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported

TESORO USA 68238 (Continued) **S113177276**

TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.0875
Waste Quantity:	175
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20140428
Creation Date:	9/13/2014 22:15:06
Receipt Date:	20140430
Manifest ID:	007613087FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.1
Waste Quantity:	200
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20140428
Creation Date:	7/10/2014 22:15:07
Receipt Date:	20140501
Manifest ID:	007613088FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid

TESORO USA 68238 (Continued) **S113177276**

	Regeneration, Organics Recovery Ect
Quantity Tons:	0.063
Waste Quantity:	15
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2013
Gen EPA ID:	CAR000144287
Shipment Date:	20131203
Creation Date:	5/10/2014 22:15:07
Receipt Date:	20131204
Manifest ID:	005763074FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.125
Waste Quantity:	250
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20130628
Creation Date:	11/27/2013 22:15:07
Receipt Date:	20130703
Manifest ID:	005751967FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.05
Waste Quantity:	100

TESORO USA 68238 (Continued) **S113177276**

Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20130507
Creation Date:	7/25/2013 22:15:10
Receipt Date:	20130515
Manifest ID:	005786112FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.042
Waste Quantity:	10
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20130211
Creation Date:	8/21/2013 22:15:07
Receipt Date:	20130213
Manifest ID:	005782189FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.14
Waste Quantity:	280
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

TESORO USA 68238 (Continued) **S113177276**

Additional Info:

Year:	2005
Gen EPA ID:	CAR000144287
Shipment Date:	20050830
Creation Date:	1/18/2006 10:22:44
Receipt Date:	20050912
Manifest ID:	24748302
Trans EPA ID:	CAD983584681
Trans Name:	BELSHIRE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	CAD028277036
Trans 2 Name:	ASBURY ENV SVCS
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	D80 - Disposal, Land Fill
Quantity Tons:	0.1
Waste Quantity:	200
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20050304
Creation Date:	6/1/2005 18:31:04
Receipt Date:	20050308
Manifest ID:	23869252
Trans EPA ID:	CAD983584681
Trans Name:	BELSHIRE ENVIRONMENTAL SVS
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	NONE
Meth Code:	R01 - Recycler
Quantity Tons:	0.84
Waste Quantity:	200
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20050304
Creation Date:	5/29/2005 18:30:53
Receipt Date:	20050316
Manifest ID:	23868986
Trans EPA ID:	CAD983584681

TESORO USA 68238 (Continued) **S113177276**

Trans Name:	BELSHIRE ENVIRONMENTAL SVCS
Trans 2 EPA ID:	CAD028277036
Trans 2 Name:	ASBURY ENVIRONMENTAL
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	EXEM
Meth Code:	D80 - Disposal, Land Fill
Quantity Tons:	0.3
Waste Quantity:	600
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20050304
Creation Date:	6/1/2005 18:31:04
Receipt Date:	20050308
Manifest ID:	23869252
Trans EPA ID:	CAD983584681
Trans Name:	BELSHIRE ENVIRONMENTAL SVS
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	CAT080013352
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	NONE
Meth Code:	R01 - Recycler
Quantity Tons:	0.042
Waste Quantity:	10
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2012
Gen EPA ID:	CAR000144287

Shipment Date:	20121112
Creation Date:	4/6/2013 22:15:15
Receipt Date:	20121114
Manifest ID:	005775337FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS

TESORO USA 68238 (Continued) **S113177276**

TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.0875
Waste Quantity:	175
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20121112
Creation Date:	1/13/2013 22:15:14
Receipt Date:	20121116
Manifest ID:	005775338FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.021
Waste Quantity:	5
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20120807
Creation Date:	10/10/2012 22:15:20
Receipt Date:	20120809
Manifest ID:	004666771FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.126

TESORO USA 68238 (Continued) **S113177276**

Waste Quantity:	30
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20120419
Creation Date:	10/19/2012 22:15:22
Receipt Date:	20120427
Manifest ID:	004659704FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAD981412356
Trans 2 Name:	PACIFIC TRANS ENVIRONMENTAL SERVICES INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.075
Waste Quantity:	150
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20120322
Creation Date:	5/30/2012 20:30:10
Receipt Date:	20120326
Manifest ID:	004660437FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.231
Waste Quantity:	55
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

TESORO USA 68238 (Continued) **S113177276**

Shipment Date:	20120202
Creation Date:	7/16/2012 20:30:09
Receipt Date:	20120215
Manifest ID:	004643474FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAD981412356
Trans 2 Name:	PACIFIC TRANS ENVIRONMENTAL SERVICES INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.075
Waste Quantity:	150
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20120103
Creation Date:	3/27/2012 20:30:14
Receipt Date:	20120111
Manifest ID:	004644006FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.021
Waste Quantity:	5
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2017
Gen EPA ID:	CAR000144287

Shipment Date:	20171120
Creation Date:	7/5/2018 18:32:15
Receipt Date:	20171129

TESORO USA 68238 (Continued) **S113177276**

Manifest ID:	010663965FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.04
Waste Quantity:	80
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170801
Creation Date:	7/19/2018 18:30:21
Receipt Date:	20170809
Manifest ID:	010650027FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.1
Waste Quantity:	200
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170615
Creation Date:	5/17/2018 18:31:33
Receipt Date:	20170622
Manifest ID:	009697246FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO AND SONS TRUCKING INC
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON

TESORO USA 68238 (Continued) **S113177276**

TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.105
Waste Quantity:	25
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170328
Creation Date:	5/9/2018 18:32:13
Receipt Date:	20170330
Manifest ID:	009695819FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO AND SONS TRUCKING INC
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.021
Waste Quantity:	5
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170222
Creation Date:	5/11/2018 18:31:59
Receipt Date:	20170301
Manifest ID:	009683972FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.0375

TESORO USA 68238 (Continued) **S113177276**

Waste Quantity:	75
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2008
Gen EPA ID:	CAR000144287
Shipment Date:	20080827
Creation Date:	1/7/2009 18:30:08
Receipt Date:	20080829
Manifest ID:	002154076FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.0575
Waste Quantity:	115
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20080225
Creation Date:	4/22/2008 18:30:30
Receipt Date:	20080229
Manifest ID:	000784561FLE
Trans EPA ID:	CAR000165175
Trans Name:	BELSHIRE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.126
Waste Quantity:	30
Quantity Unit:	G
Additional Code 1:	Not reported

TESORO USA 68238 (Continued) **S113177276**

Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20080115
Creation Date:	6/4/2008 18:30:16
Receipt Date:	20080118
Manifest ID:	000811578FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.225
Waste Quantity:	450
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2007
Gen EPA ID:	CAR000144287
Shipment Date:	20070712
Creation Date:	2/5/2008 18:30:26
Receipt Date:	20070720
Manifest ID:	000784873FLE
Trans EPA ID:	CAR000165175
Trans Name:	BELSHIRE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.125
Waste Quantity:	250
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported

TESORO USA 68238 (Continued) **S113177276**

Additional Code 5:	Not reported
Shipment Date:	20070516
Creation Date:	10/10/2007 18:30:46
Receipt Date:	20070517
Manifest ID:	000770452FLE
Trans EPA ID:	CAR000165175
Trans Name:	BELSHIRE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H135 - Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment)
Quantity Tons:	0.168
Waste Quantity:	40
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20070516
Creation Date:	12/20/2007 18:30:21
Receipt Date:	20070518
Manifest ID:	000770451FLE
Trans EPA ID:	CAR000165175
Trans Name:	BELSHIRE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.1375
Waste Quantity:	275
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2015
Gen EPA ID:	CAR000144287
Shipment Date:	20151030

TESORO USA 68238 (Continued) **S113177276**

Creation Date:	5/4/2016 22:15:48
Receipt Date:	20151104
Manifest ID:	008725176FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.07
Waste Quantity:	140
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20150421
Creation Date:	7/8/2015 22:15:29
Receipt Date:	20150423
Manifest ID:	007647362FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.063
Waste Quantity:	15
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20150421
Creation Date:	9/11/2015 22:15:30
Receipt Date:	20150422
Manifest ID:	007647361FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported

TESORO USA 68238 (Continued) **S113177276**

TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.0625
Waste Quantity:	125
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150303
Creation Date:	5/20/2015 22:15:07
Receipt Date:	20150312
Manifest ID:	007643288FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.798
Waste Quantity:	190
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2011
Gen EPA ID:	CAR000144287
Shipment Date:	20111130
Creation Date:	4/26/2012 20:30:19
Receipt Date:	20111221
Manifest ID:	004642714FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAD981412356
Trans 2 Name:	PACIFIC TRANS ENVIRONMENTAL SERVICES INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported

TESORO USA 68238 (Continued) **S113177276**

TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.06
Waste Quantity:	120
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20110617
Creation Date:	11/30/2011 18:30:22
Receipt Date:	20110624
Manifest ID:	004628430FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAD981412356
Trans 2 Name:	PACIFIC TRANS ENVIRONMENTAL SERVICES INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.05
Waste Quantity:	100
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20110414
Creation Date:	6/20/2011 18:30:31
Receipt Date:	20110420
Manifest ID:	004234465FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO & SONS TRUCKING INC
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.126
Waste Quantity:	30

TESORO USA 68238 (Continued) **S113177276**

Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2009
Gen EPA ID:	CAR000144287
Shipment Date:	20091027
Creation Date:	12/11/2012 22:16:18
Receipt Date:	Not reported
Manifest ID:	002120344FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	- Not reported
Quantity Tons:	0.1
Waste Quantity:	200
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20091014
Creation Date:	12/8/2009 18:30:38
Receipt Date:	20091019
Manifest ID:	002120303FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO AND SONS TRUCKING
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.063
Waste Quantity:	15
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported

TESORO USA 68238 (Continued) **S113177276**

Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090728
Creation Date:	8/28/2009 18:30:09
Receipt Date:	20090729
Manifest ID:	002124260FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO & SONS
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.0165
Waste Quantity:	5
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090707
Creation Date:	8/20/2009 18:30:09
Receipt Date:	20090710
Manifest ID:	002154852FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO & SONS TRUCKING
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D001
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.0231
Waste Quantity:	7
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090707
Creation Date:	11/25/2009 18:30:24
Receipt Date:	20090710
Manifest ID:	002124138FLE
Trans EPA ID:	CAR000183913

TESORO USA 68238 (Continued) **S113177276**

Trans Name:	BELSHIRE
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.065
Waste Quantity:	130
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090707
Creation Date:	8/20/2009 18:30:09
Receipt Date:	20090710
Manifest ID:	002154852FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO & SONS TRUCKING
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.0042
Waste Quantity:	1
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090520
Creation Date:	7/2/2009 18:30:26
Receipt Date:	20090522
Manifest ID:	000825251FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO & SONS TRUCKING INC
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported

TESORO USA 68238 (Continued) **S113177276**

Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.105
Waste Quantity:	25
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090128
Creation Date:	4/3/2009 18:30:19
Receipt Date:	20090202
Manifest ID:	002165173FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO & SONS TRUCKING
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.0084
Waste Quantity:	2
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090128
Creation Date:	5/26/2009 18:30:08
Receipt Date:	20090130
Manifest ID:	002165371FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.05
Waste Quantity:	100
Quantity Unit:	P

TESORO USA 68238 (Continued) **S113177276**

Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2016
Gen EPA ID:	CAR000144287
Shipment Date:	20151030
Creation Date:	5/4/2016 22:15:48
Receipt Date:	20151104
Manifest ID:	008725176FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.07
Waste Quantity:	140
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150421
Creation Date:	9/11/2015 22:15:30
Receipt Date:	20150422
Manifest ID:	007647361FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.0625
Waste Quantity:	125
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported

TESORO USA 68238 (Continued) **S113177276**

Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150421
Creation Date:	7/8/2015 22:15:29
Receipt Date:	20150423
Manifest ID:	007647362FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.063
Waste Quantity:	15
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150303
Creation Date:	5/20/2015 22:15:07
Receipt Date:	20150312
Manifest ID:	007643288FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.798
Waste Quantity:	190
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2010
Gen EPA ID:	CAR000144287

TESORO USA 68238 (Continued) **S113177276**

Shipment Date:	20101216
Creation Date:	5/24/2011 18:30:28
Receipt Date:	20101229
Manifest ID:	002143795FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAD981412356
Trans 2 Name:	PACIFIC TRANS ENVIRONMENTAL SERVICES INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.075
Waste Quantity:	150
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20100629
Creation Date:	1/26/2011 18:30:09
Receipt Date:	20100709
Manifest ID:	002135047FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAD981412356
Trans 2 Name:	PACIFIC TRANS ENVIRONMENTAL SERIVCES INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.035
Waste Quantity:	70
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20100511
Creation Date:	8/6/2010 18:31:13
Receipt Date:	20100512
Manifest ID:	002134959FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	Not reported

TESORO USA 68238 (Continued) **S113177276**

Trans 2 Name:	Not reported
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.063
Waste Quantity:	15
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20100119
Creation Date:	7/20/2010 18:30:24
Receipt Date:	20100127
Manifest ID:	002122245FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAD981412356
Trans 2 Name:	PACIFIC TRANS ENVIRONMENTAL SERVICES INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.125
Waste Quantity:	250
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

CERS:

Name:	TESORO (SPEEDWAY) 68238
Address:	23905 CATT RD
City,State,Zip:	WILDOMAR, CA 92595
Site ID:	74628
CERS ID:	10321810
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238
Violation Date:	10-13-2015
Citation:	HSC 6.7 25291 - California Health and Safety Code, Chapter 6.7, Section(s) 25291

TESORO USA 68238 (Continued) **S113177276**

Violation Description:	Failure to maintain under-dispenser containment, sumps, and/or other secondary containment in good condition and/or free of debris/liquid.
Violation Notes:	Returned to compliance on 10/13/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238
Violation Date:	09-04-2019
Citation:	23 CCR 16 2636(f)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(2)
Violation Description:	Failure of the functional line leak detector (LLD) monitoring pressurized piping to meet one or more of the following requirements: Monitored at least hourly with the capability of detecting a release of 3.0 gallons per hour leak at 10 pounds per square inch and restrict or shut off the flow of product through the piping when a leak is detected.
Violation Notes:	Returned to compliance on 10/28/2019. OBSERVATION: Observed 87 & 91 leak detectors fail to detect a 3.0 gallon per hour leak and restrict or shut off flow of product when tested. CORRECTIVE ACTION: Owner/operator shall repair/replace failed leak detector and certify that leak detector is capable of detecting a 3.0 gallon per hour leak and slowing/stopping the flow of product. 48 hour notification required to be submitted to this Department prior to re-testing failed leak detector.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238
Violation Date:	10-04-2016
Citation:	23 CCR 16 2631(g), 2632(c)(2)(A) & (B) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2631(g), 2632(c)(2)(A) & (B)
Violation Description:	Failure of the double-walled interstitial space of the tank to be continuously monitored with an audible and visual alarm.
Violation Notes:	Returned to compliance on 10/04/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238
Violation Date:	10-04-2016
Citation:	23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description:	Failure of the leak detection equipment to have an audible and visual alarm as required.
Violation Notes:	Returned to compliance on 10/04/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238

TESORO USA 68238 (Continued) **S113177276**

Violation Date:	10-13-2015
Citation:	23 CCR 16 2636(f)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(2)
Violation Description:	Failure of the pressurized piping to meet one or more of the following requirements: monitored at least hourly with the capability of detecting a release of 3.0 gallons per hour, and will restrict the flow of product through the piping or trigger an alarm when a release occurs.
Violation Notes:	Returned to compliance on 10/13/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238
Violation Date:	10-04-2016
Citation:	23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description:	Failure of the overfill prevention system to meet one of the following requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.
Violation Notes:	Returned to compliance on 10/04/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238
Violation Date:	10-13-2015
Citation:	23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description:	Failure of the double wall pressurized piping in the under dispenser containment to be continuously monitored by a method that either shuts down the flow of product to the dispenser or activates an audible/visual alarm when a leak is detected.
Violation Notes:	Returned to compliance on 10/13/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238
Violation Date:	12-12-2019
Citation:	40 CFR 1 265.35 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.35
Violation Description:	Failure to maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an

TESORO USA 68238 (Continued) **S113177276**

emergency, unless aisle space is not needed for any of these purposes.
Violation Notes: Returned to compliance on 01/10/2020. OBSERVATION: Observed waste drum area without adequate aisle space. CORRECTIVE ACTION: Owner/operator shall maintain adequate aisle space in hazardous waste storage areas for personnel and fire protection equipment.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 74628
Site Name: TESORO (SPEEDWAY) 68238
Violation Date: 10-13-2015
Citation: 23 CCR 16 2636(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)
Violation Description: Failure to continuously monitor the interstitial space of the tank, piping and/or sumps sump such that the leak detection activates an audible/visual alarm when a leak is detected.
Violation Notes: Returned to compliance on 10/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 74628
Site Name: TESORO (SPEEDWAY) 68238
Violation Date: 10-13-2015
Citation: 23 CCR 16 2641(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(a)
Violation Description: Failure of sensor to be located in the proper position/location.
Violation Notes: Returned to compliance on 10/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 74628
Site Name: TESORO (SPEEDWAY) 68238
Violation Date: 10-13-2015
Citation: 23 CCR 16 2632, 2634, 2636, 2666 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632, 2634, 2636, 2666
Violation Description: Failure of the leak detection equipment to have an audible and visual alarm as required.
Violation Notes: Returned to compliance on 10/13/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 74628
Site Name: TESORO (SPEEDWAY) 68238
Violation Date: 10-04-2016
Citation: HSC 6.7 25290.1(c)(3), 25290.2(c)(3) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(c)(3), 25290.2(c)(3)
Violation Description: Failure to keep water out of the secondary containment of UST systems installed on or after July 1, 2003 and before July 1, 2004, or on or after July 1, 2004.
Violation Notes: Returned to compliance on 10/04/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

TESORO USA 68238 (Continued) **S113177276**

Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238
Violation Date:	09-04-2019
Citation:	HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2
Violation Description:	"Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container. Tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. "
Violation Notes:	Returned to compliance on 09/04/2019. OBSERVATION: Observed 87 fill drain valve to be leaking and would not hold liquid. CORRECTIVE ACTION: Owner/operator shall repair/replace the leaking 87 fill drain valve so that bucket is able to hold liquid and contain release until detected.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS

Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238
Violation Date:	10-13-2015
Citation:	HSC 6.7 25292.1(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25292.1(a)
Violation Description:	Failure to operate the UST system to prevent spills and/or overfills.
Violation Notes:	Returned to compliance on 10/13/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS

Site ID:	74628
Site Name:	TESORO (SPEEDWAY) 68238
Violation Date:	03-04-2020
Citation:	23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description:	Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1,- 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For

TESORO USA 68238 (Continued) **S113177276**

USTs installed on and after October- 1,- 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.

Violation Notes: Not reported
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Evaluation:

Eval General Type: Other/Unknown
Eval Date: 03-02-2020
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-01-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-04-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-04-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-18-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

TESORO USA 68238 (Continued) **S113177276**

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-04-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-04-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-04-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-13-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-29-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Haz mat disclosure inspection
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-29-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: HW generator inspection
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 10-29-2014
Violations Found: No

TESORO USA 68238 (Continued) **S113177276**

Eval Type: Routine done by local agency
Eval Notes: UST annual inspection/CMD
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-05-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-05-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 11-05-2013
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-12-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-12-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Enforcement Action:
Site ID: 74628
Site Name: TESORO (SPEEDWAY) 68238
Site Address: 23905 CATT RD
Site City: WILDOMAR
Site Zip: 92595

TESORO USA 68238 (Continued) **S113177276**

Enf Action Date: 10-13-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS

Coordinates:
Site ID: 74628
Facility Name: TESORO (SPEEDWAY) 68238
Env Int Type Code: HWG
Program ID: 10321810
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 33.597430
Longitude: -117.243430

Affiliation:
Affiliation Type Desc: UST Permit Applicant
Entity Name: TERESA A. MILES
Entity Title: ENVIRONMENTAL COMPLIANCE SUPERVISOR
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (562) 495-6850

Affiliation Type Desc: UST Tank Operator
Entity Name: WESTERN REFINING RETAIL, LLC
Entity Title: Not reported
Affiliation Address: ATTN: ENVIRONMENTAL DEPT. G 500 SPEEDWAY DR.
Affiliation City: ENON
Affiliation State: OH
Affiliation Country: United States
Affiliation Zip: 45323
Affiliation Phone: (937) 863-7377

Affiliation Type Desc: Legal Owner
Entity Name: Tesoro Sierra Properties LLC
Entity Title: Not reported
Affiliation Address: ATTN: ENVIRONMENTAL DEPT. G 500 SPEEDWAY DR.
Affiliation City: ENON
Affiliation State: OH
Affiliation Country: United States
Affiliation Zip: 45323
Affiliation Phone: (937) 863-7377

Affiliation Type Desc: Operator
Entity Name: WESTERN REFINING RETAIL, LLC
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported

TESORO USA 68238 (Continued) **S113177276**

Affiliation Zip: Not reported
Affiliation Phone: (937) 863-7377

Affiliation Type Desc: Parent Corporation
Entity Name: Tesoro Refining and Marketing Company LLC
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Property Owner
Entity Name: Tesoro Sierra Properties LLC
Entity Title: Not reported
Affiliation Address: ATTN: ENVIRONMENTAL DEPT. G 500 SPEEDWAY DR.
Affiliation City: ENON
Affiliation State: OH
Affiliation Country: United States
Affiliation Zip: 45323
Affiliation Phone: (937) 863-7377

Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title: Not reported
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055

Affiliation Type Desc: Document Preparer
Entity Name: BELSHIRE ENVIRONMENTAL
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact
Entity Name: SEAN AUGUSTINE
Entity Title: Not reported
Affiliation Address: ATTN: ENVIRONMENTAL DEPT. G 500 SPEEDWAY DR.
Affiliation City: ENON
Affiliation State: OH
Affiliation Country: Not reported
Affiliation Zip: 45323
Affiliation Phone: Not reported

Affiliation Type Desc: UST Property Owner Name
Entity Name: Tesoro Sierra Properties LLC
Entity Title: Not reported
Affiliation Address: ATTN: ENVIRONMENTAL DEPT. G 500 SPEEDWAY DR.

TESORO USA 68238 (Continued) **S113177276**

Affiliation City: ENON
Affiliation State: OH
Affiliation Country: United States
Affiliation Zip: 45323
Affiliation Phone: (937) 863-7377

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: ATTN: ENVIRONMENTAL DEPT. G 500 SPEEDWAY DR.
Affiliation City: ENON
Affiliation State: OH
Affiliation Country: Not reported
Affiliation Zip: 45323
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer
Entity Name: TERESA A. MILES
Entity Title: PACIFIC DIVISION ENVIRONMENTAL COMPLIANCE MANAGER
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: UST Tank Owner
Entity Name: Tesoro Sierra Properties LLC
Entity Title: Not reported
Affiliation Address: ATTN: ENVIRONMENTAL DEPT. G 500 SPEEDWAY DR.
Affiliation City: ENON
Affiliation State: OH
Affiliation Country: United States
Affiliation Zip: 45323
Affiliation Phone: (937) 863-7377

HWTS:
Name: TESORO USA 68238
Address: 23905 CATT RD
Address 2: Not reported
City,State,Zip: WILDOMAR, CA 925950000
EPA ID: CAR000144287
Inactive Date: Not reported
Create Date: 06/21/2004
Last Act Date: 08/19/2020
Mailing Name: Not reported
Mailing Address: 19100 RIDGEWOOD PKWY
Mailing Address 2: MS:TX1-022
Mailing City,State,Zip: SAN ANTONIO, TX 78259
Owner Name: TESORO REFINING & MARKETING COMPANY
Owner Address: 19100 RIDGEWOOD PKWY
Owner Address 2: Not reported
Owner City,State,Zip: SAN ANTONIO, TX 782590000
Contact Name: BRENDA RAMIREZ
Contact Address: 19100 RIDGEWOOD PKWY
Contact Address 2: MS: TX1-022

TESORO USA 68238 (Continued) **S113177276**

City,State,Zip: SAN ANTONIO, TX 78259

NAICS:

EPA ID: CAR000144287
Create Date: 2009-12-03 12:41:18.000
NAICS Code: 44719
NAICS Description: Other Gasoline Stations
Issued EPA ID Date: 2004-06-21 15:39:41.83700
Inactive Date: Not reported
Facility Name: TESORO USA 68238
Facility Address: 23905 CATT RD
Facility Address 2: Not reported
Facility City: WILDOMAR
Facility County: Not reported
Facility State: CA
Facility Zip: 925950000

A2 **TESORO WEST COAST CO LLC NO 68238** **RCRA-SQG** **1006806025**
SW **23905 CATT RD** **FINDS** **CAR000144287**
< 1/8 **WILDOMAR, CA 92595**
0.032 mi.
169 ft. **Site 2 of 7 in cluster A**

Relative: **Lower**

Actual: **1337 ft.**

RCRA-SQG:

Date Form Received by Agency: 2007-05-09 00:00:00.0
Handler Name: TESORO WEST COAST CO LLC NO 68238
Handler Address: 23905 CATT RD
Handler City,State,Zip: WILDOMAR, CA 92595
EPA ID: CAR000144287
Contact Name: SANDY EDWARDS
Contact Address: 3450 S 344TH WAY
Contact City,State,Zip: AUBURN, WA 98001
Contact Telephone: 559-585-8156
Contact Fax: Not reported
Contact Email: Not reported
Contact Title: Not reported
EPA Region: 09
Land Type: Private
Federal Waste Generator Description: Small Quantity Generator
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Handler Activities
State District Owner: Not reported
State District: Not reported
Mailing Address: 3450 S 344TH WAY
Mailing City,State,Zip: AUBURN, WA 98001
Owner Name: TESORO WEST COAST COMPANY LLC
Owner Type: Private
Operator Name: TESORO WEST COAST COMPANY LLC
Operator Type: Private
Short-Term Generator Activity: No
Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility Activity: No
Recycler Activity with Storage: No

TESORO WEST COAST CO LLC NO 68238 (Continued) **1006806025**

Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2007-08-24 17:59:19.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D018
Waste Description:	BENZENE

Handler - Owner Operator:

TESORO WEST COAST CO LLC NO 68238 (Continued) **1006806025**

Owner/Operator Indicator:	Operator
Owner/Operator Name:	USA GAS CORP
Legal Status:	Private
Date Became Current:	2003-01-02 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	USA GAS CORP
Legal Status:	Private
Date Became Current:	1998-11-17 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	TESORO WEST COAST COMPANY LLC
Legal Status:	Private
Date Became Current:	2007-05-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	TESORO WEST COAST COMPANY LLC
Legal Status:	Private
Date Became Current:	2007-05-01 00:00:00.
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	2003-03-13 00:00:00.0
Handler Name:	USA GASOLINE CORPORATION FACILITY NO 844
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No

TESORO WEST COAST CO LLC NO 68238 (Continued) **1006806025**

Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 2007-05-09 00:00:00.0
Handler Name: TESORO WEST COAST CO LLC NO 68238
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 44711
NAICS Description: GASOLINE STATIONS WITH CONVENIENCE STORES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110014461242

Click Here:

Environmental Interest/Information System:
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

A3
SW
< 1/8
0.032 mi.
169 ft.

TESORO SIERRA PROPERTIES LLC #68238
23905 CATT RD
WILDOMAR, CA 92595

Site 3 of 7 in cluster A

RCRA NonGen / NLR **1026723545**
CAL000460659

Relative:
Lower

Actual:
1337 ft.

RCRA NonGen / NLR:

Date Form Received by Agency:	2021-03-02 00:00:00.0
Handler Name:	TESORO SIERRA PROPERTIES LLC #68238
Handler Address:	23905 CATT RD
Handler City,State,Zip:	WILDOMAR, CA 92595
EPA ID:	CAL000460659
Contact Name:	TERESA MILES
Contact Address:	500 SPEEDWAY DR
Contact City,State,Zip:	ENON, OH 45323
Contact Telephone:	562-305-8226
Contact Fax:	Not reported
Contact Email:	TAMILES@SPEEDWAY.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	500 SPEEDWAY DR
Mailing City,State,Zip:	ENON, OH 45323
Owner Name:	TESORO SIERRA PROPERTIES LLC
Owner Type:	Other
Operator Name:	TERESA MILES
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported

TESORO SIERRA PROPERTIES LLC #68238 (Continued) **1026723545**

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2021-03-12 19:46:37.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	TERESA MILES
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	500 SPEEDWAY DR
Owner/Operator City,State,Zip:	ENON, OH 45323
Owner/Operator Telephone:	562-305-8226
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	TESORO SIERRA PROPERTIES LLC
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	500 SPEEDWAY DR
Owner/Operator City,State,Zip:	ENON, OH 45323
Owner/Operator Telephone:	562-305-8226
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

TESORO SIERRA PROPERTIES LLC #68238 (Continued) **1026723545**

Historic Generators:
Receive Date: 2021-03-02 00:00:00.0
Handler Name: TESORO SIERRA PROPERTIES LLC #68238
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 447190
NAICS Description: OTHER GASOLINE STATIONS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A4 **TESORO (SPEEDWAY) 68238** **UST** **U004131253**
SW **23905 CATT RD** **N/A**
< 1/8 **WILDOMAR, CA 92595**
0.032 mi.
169 ft. **Site 4 of 7 in cluster A**

Relative:
Lower

Actual:
1337 ft.

RIVERSIDE CO. UST:
Name: SPEEDWAY #68238
Address: 23905 CATT RD
City,State,Zip: WILDOMAR, CA 92595
Region: RIVERSIDE
Total Tanks: 3

UST:
Name: TESORO (SPEEDWAY) 68238
Address: 23905 CATT RD
City,State,Zip: WILDOMAR, CA 92595
Facility ID: FA0023219
Permitting Agency: Riverside County Department of Environmental Health
Latitude: 33.59743
Longitude: -117.24343

Name: TESORO (USA) 68238 (WRR 6390)
Address: 23905 CATT RD
City,State,Zip: WILDOMAR, CA 92595
Facility ID: FA0023219
Permitting Agency: Riverside County Department of Environmental Health
Latitude: 33.59743
Longitude: -117.24343

A5 **ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTER** **CERS HAZ WASTE** **S123078047**
SSW **23885 CLINTON KEITH RD STE H5** **HAZNET** **N/A**
< 1/8 **WILDOMAR, CA 92595** **CERS**
0.048 mi. **HWTS**
253 ft. **Site 5 of 7 in cluster A**

Relative:
Lower

Actual:
1328 ft.

CERS HAZ WASTE:

Name:	DISCOUNT TIRE CENTERS # 033
Address:	23885 CLINTON KEITH RD STE H5
City,State,Zip:	WILDOMAR, CA 92595
Site ID:	362656
CERS ID:	10654690
CERS Description:	Hazardous Waste Generator

HAZNET:

Name:	ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033
Address:	23885 CLINTON KEITH RD STE H5
Address 2:	Not reported
City,State,Zip:	WILDOMAR, CA 92801
Contact:	ORLANDO FRANCO
Telephone:	7148619024
Mailing Name:	Not reported
Mailing Address:	1139 N. PATT STREET
Year:	2019
Gepaid:	CAL000412957
TSD EPA ID:	CAD097030993
CA Waste Code:	352 - Other organic solids
Disposal Method:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.07500
Year:	2017
Gepaid:	CAL000412957
TSD EPA ID:	CAD097030993
CA Waste Code:	352 - Other organic solids
Disposal Method:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.06

Additional Info:

Year:	2017
Gen EPA ID:	CAL000412957
Shipment Date:	20171229
Creation Date:	8/28/2018 18:31:08
Receipt Date:	20180109
Manifest ID:	018163865JJK
Trans EPA ID:	CAD028277036
Trans Name:	ASBURY ENVIRONMENTAL SERVICES
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD097030993
Trans Name:	US ECOLOGY VERNON INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids

ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033 (Continued) **S123078047**

RCRA Code: Not reported
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.06
Waste Quantity: 120
Quantity Unit: P
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

CERS:
Name: DISCOUNT TIRE CENTERS # 033
Address: 23885 CLINTON KEITH RD STE H5
City,State,Zip: WILDOMAR, CA 92595
Site ID: 362656
CERS ID: 10654690
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 362656
Site Name: Discount Tire Centers # 033
Violation Date: 09-02-2016
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to establish and electronically submit an adequate training program in safety procedures in the event of a release or threatened release of a hazardous material.
Violation Notes: Returned to compliance on 11/01/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 362656
Site Name: Discount Tire Centers # 033
Violation Date: 09-18-2019
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description: Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes: Returned to compliance on 09/18/2019. OBSERVATION: Annual Hazmat Training documentation showing a complete list of all trained employees was not provided. CORRECTIVE ACTION: Owner/operator shall provide training to all employees who handle. Documentation shall be retained and be made available for inspection for a minimum period of 3 years from the date of the training.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 362656
Site Name: Discount Tire Centers # 033
Violation Date: 09-02-2016
Citation: 40 CFR 1 265.201(c)(3) - U.S. Code of Federal Regulations, Title 40,

ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033 (Continued) **S123078047**

	Chapter 1, Section(s) 265.201(c)(3)
Violation Description:	Failure to inspect hazardous waste tanks at least once each operating day for the following, when present: (1) Discharge control equipment (e.g., waste feed cutoff systems, by-pass systems, and drainage systems) to ensure that it is in good working order; (2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges) to ensure that the tank is being operated according to its design; (3) The level of waste in the tank.
Violation Notes:	Returned to compliance on 11/01/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	362656
Site Name:	Discount Tire Centers # 033
Violation Date:	09-02-2016
Citation:	40 CFR 1 265.33 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.33
Violation Description:	Failure to test and maintain as necessary all facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment to assure its proper operation in time of emergency.
Violation Notes:	Returned to compliance on 11/01/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	362656
Site Name:	Discount Tire Centers # 033
Violation Date:	09-02-2016
Citation:	HSC 6.95 25505(c) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(c)
Violation Description:	Failure to have a business plan readily available to personnel of the business or the unified program facility with responsibilities for emergency response or training.
Violation Notes:	Returned to compliance on 11/01/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	362656
Site Name:	Discount Tire Centers # 033
Violation Date:	09-02-2016
Citation:	Un-Specified
Violation Description:	Business Plan Program - Operations/Maintenance - General Local Ordinance
Violation Notes:	Returned to compliance on 11/01/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	362656
Site Name:	Discount Tire Centers # 033
Violation Date:	09-02-2016
Citation:	22 CCR 15 66265.174 - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.174
Violation Description:	Failure to inspect weekly, areas where hazardous waste containers are

ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033 (Continued) **S123078047**

stored or transferred. The owner or operator shall look for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

Violation Notes: Returned to compliance on 11/01/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-02-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-02-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-18-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-18-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 10-04-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 10-04-2016
Violations Found: No

ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033 (Continued) **S123078047**

Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 10-27-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 10-27-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title: Not reported
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055

Affiliation Type Desc: Environmental Contact
Entity Name: Orlando Franco
Entity Title: Not reported
Affiliation Address: 1139 N. Patt Street
Affiliation City: Anaheim
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92801
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner
Entity Name: Andonian Enterprices Inc.
Entity Title: Not reported
Affiliation Address: 1139 N. Patt Street
Affiliation City: Anaheim
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 92801
Affiliation Phone: (714) 861-9024

Affiliation Type Desc: Operator
Entity Name: Jose Leon

ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033 (Continued) **S123078047**

Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(951) 330-6183
Affiliation Type Desc:	Identification Signer
Entity Name:	Orlando Franco
Entity Title:	Operations and Procedures Auditor
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Document Preparer
Entity Name:	Orlando Franco
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	1139 N. Patt Street
Affiliation City:	Anaheim
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92801
Affiliation Phone:	Not reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	Andonian Enterprises Inc. dba Discount Tire Centers
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

HWTS:

Name:	ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033
Address:	23885 CLINTON KEITH RD STE H5
Address 2:	Not reported
City,State,Zip:	WILDOMAR, CA 925959820
EPA ID:	CAL000412957
Inactive Date:	Not reported
Create Date:	12/04/2015

ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033 (Continued) **S123078047**

Last Act Date:	08/10/2020
Mailing Name:	Not reported
Mailing Address:	1139 N. PATT STREET
Mailing Address 2:	Not reported
Mailing City,State,Zip:	ANAHEIM, CA 92801
Owner Name:	ANDY ANDONIAN
Owner Address:	1139 N. PATT STREET
Owner Address 2:	Not reported
Owner City,State,Zip:	ANAHEIM, CA 928012502
Contact Name:	ORLANDO FRANCO
Contact Address:	1139 N. PATT STREET
Contact Address 2:	Not reported
City,State,Zip:	ANAHEIM, CA 92801

NAICS:

EPA ID:	CAL000412957
Create Date:	2015-12-04 11:16:51.127
NAICS Code:	811111
NAICS Description:	General Automotive Repair
Issued EPA ID Date:	2015-12-04 11:16:51.08000
Inactive Date:	Not reported
Facility Name:	ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033
Facility Address:	23885 CLINTON KEITH RD STE H5
Facility Address 2:	Not reported
Facility City:	WILDOMAR
Facility County:	Not reported
Facility State:	CA
Facility Zip:	925959820

A6
SSW
< 1/8
0.048 mi.
253 ft.

ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTER **RCRA NonGen / NLR** **1024853303**
23885 CLINTON KEITH RD STE H5 **CAL000412957**
WILDOMAR, CA 92595

Site 6 of 7 in cluster A

Relative:
Lower

Actual:
1328 ft.

RCRA NonGen / NLR:

Date Form Received by Agency:	2015-12-04 00:00:00.0
Handler Name:	ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033
Handler Address:	23885 CLINTON KEITH RD STE H5
Handler City,State,Zip:	WILDOMAR, CA 92595-9820
EPA ID:	CAL000412957
Contact Name:	ORLANDO FRANCO
Contact Address:	1160 N. ANAHEIM BLVD.
Contact City,State,Zip:	ANAHEIM, CA 92801-2502
Contact Telephone:	714-861-9024
Contact Fax:	Not reported
Contact Email:	RORTEGA@DISCOUNTTIRECENTERS.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported

ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033 (Continued) **1024853303**

Mailing Address:	1160 N ANAHEIM BLVD
Mailing City,State,Zip:	ANAHEIM, CA 92801-2502
Owner Name:	ANDY ANDONIAN
Owner Type:	Other
Operator Name:	ORLANDO FRANCO
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2018-09-06 17:07:15.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No

ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033 (Continued) **1024853303**

Exporter of Spent Lead Acid Batteries: No
Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: ORLANDO FRANCO
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 1160 N. ANAHEIM BLVD.
Owner/Operator City,State,Zip: ANAHEIM, CA 92801-2502
Owner/Operator Telephone: 714-861-9024
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: ANDY ANDONIAN
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 1160 N ANAHEIM BLVD
Owner/Operator City,State,Zip: ANAHEIM, CA 92801-2502
Owner/Operator Telephone: 714-861-9024
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 2015-12-04 00:00:00.0
Handler Name: ANDONDIAN ENTERPRISES INC DBA DISCOUNT TIRE CENTERS #033
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 811111
NAICS Description: GENERAL AUTOMOTIVE REPAIR

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A7
SSW
< 1/8
0.049 mi.
261 ft.

WILDOMAR ACE HARDWARE
23881 CLINTON KEITH RD
WILDOMAR, CA 92595

Site 7 of 7 in cluster A

RCRA NonGen / NLR **1024774135**
CAC002994056

Relative:
Lower

Actual:
1329 ft.

RCRA NonGen / NLR:

Date Form Received by Agency:	2018-12-21 00:00:00.0
Handler Name:	WILDOMAR ACE HARDWARE
Handler Address:	23881 CLINTON KEITH RD
Handler City,State,Zip:	WILDOMAR, CA 92595
EPA ID:	CAC002994056
Contact Name:	SEAN SHANABARGER
Contact Address:	23881 CLINTON KEITH RD
Contact City,State,Zip:	WILDOMAR, CA 92595
Contact Telephone:	951-225-3234
Contact Fax:	Not reported
Contact Email:	JASON.BARNES@SAFETY-KLEEN.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	23881 CLINTON KEITH RD
Mailing City,State,Zip:	WILDOMAR, CA 92595
Owner Name:	SEAN SHANABARGER
Owner Type:	Other
Operator Name:	SEAN SHANABARGER
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported

WILDOMAR ACE HARDWARE (Continued) **1024774135**

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2019-02-22 19:39:08.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	SEAN SHANABARGER
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23881 CLINTON KEITH RD
Owner/Operator City,State,Zip:	WILDOMAR, CA 92595
Owner/Operator Telephone:	951-225-3234
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	SEAN SHANABARGER
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23881 CLINTON KEITH RD
Owner/Operator City,State,Zip:	WILDOMAR, CA 92595
Owner/Operator Telephone:	951-225-3234
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

WILDOMAR ACE HARDWARE (Continued) **1024774135**

Historic Generators:
Receive Date: 2018-12-21 00:00:00.0
Handler Name: WILDOMAR ACE HARDWARE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 56299
NAICS Description: ALL OTHER WASTE MANAGEMENT SERVICES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

B8 **PROMPT CLEANERS** **EDR Hist Cleaner** **1020068062**
South **23905 CLINTON KEITH RD** **N/A**
< 1/8 **WILDOMAR, CA 92595**
0.087 mi.
462 ft. **Site 1 of 7 in cluster B**

Relative: EDR Hist Cleaner
Lower

Actual:
1342 ft.

Year:	Name:	Type:
2003	PROMPT CLEANERS	Drycleaning Plants, Except Rugs, NEC
2004	PROMPT CLEANERS	Drycleaning Plants, Except Rugs, NEC
2005	PROMPT CLEANERS	Drycleaning Plants, Except Rugs, NEC
2006	PROMPT CLEANERS	Drycleaning Plants, Except Rugs, NEC
2007	PROMPT CLEANERS	Drycleaning Plants, Except Rugs, NEC
2008	PROMPT CLEANERS	Drycleaning Plants, Except Rugs, NEC
2009	PROMPT CLEANERS	Drycleaning Plants, Except Rugs, NEC
2010	PROMPT CLEANERS	Drycleaning Plants, Except Rugs, NEC
2011	PROMPT CLEANERS	Drycleaning Plants, Except Rugs, NEC

B9 **LAGUNA BEACH DENTAL GROUP** **CERS HAZ WASTE** **S124837605**
South **23905 CLINTON KEITH RD** **HWTS** **N/A**
< 1/8 **WILDOMAR, CA 92595**
0.087 mi.
462 ft. **Site 2 of 7 in cluster B**

Relative: CERS HAZ WASTE:
Lower
Name: PROMPT CLEANERS
Actual: Address: 23905 CLINTON KEITH RD #119
1342 ft. City,State,Zip: WILDOMAR, CA 92595

LAGUNA BEACH DENTAL GROUP (Continued) **S124837605**

Site ID: 565384
CERS ID: 10325965
CERS Description: Hazardous Waste Generator

Violations:
Site ID: 565384
Site Name: Prompt Cleaners
Violation Date: 02-16-2016
Citation: 40 CFR 1 265.32 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.32
Violation Description: Failure of the facility to maintain the following emergency equipment or equivalents: 1) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel; 2) A device, such as a telephone (immediately available at the scene of Operations/ Maintenance) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams; 3) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and 4) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.
Violation Notes: Returned to compliance on 04/07/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 565384
Site Name: Prompt Cleaners
Violation Date: 02-16-2016
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description: Business Plan Program - Administration/Documentation - General
Violation Notes: Returned to compliance on 04/07/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 565384
Site Name: Prompt Cleaners
Violation Date: 02-16-2016
Citation: HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d)
Violation Description: Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes: Returned to compliance on 04/07/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 565384
Site Name: Prompt Cleaners
Violation Date: 02-16-2016
Citation: 40 CFR 1 262.34(d)(5)(ii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(ii)
Violation Description: Failure to post, next to the telephone, Emergency Information (SQG)

LAGUNA BEACH DENTAL GROUP (Continued) **S124837605**

containing the location of emergency equipment, contact names and numbers.
Violation Notes: Returned to compliance on 04/07/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 565384
Site Name: Prompt Cleaners
Violation Date: 02-16-2016
Citation: 19 CCR 6.95 25508(a)(1) - California Code of Regulations, Title 19, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page.
Violation Notes: Returned to compliance on 04/07/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 565384
Site Name: Prompt Cleaners
Violation Date: 02-05-2019
Citation: HSC 6.5 25123.3(h)(1) - California Health and Safety Code, Chapter 6.5, Section(s) 25123.3(h)(1)
Violation Description: Failure to send hazardous waste offsite for treatment, storage, or disposal within 180 days (or 270 days if waste is transported over 200 miles) for a generator who generates less than 1000 kilogram per month if all of the following conditions are met: (1) The quantity of hazardous waste accumulated onsite never exceeds 6,000 kilograms. (2) The generator complies with the requirements of 40 Code of Federal Regulations section 262.34(d), (e) and (f). (3) The generator does not hold acutely hazardous waste or extremely hazardous waste in an amount greater than one kilogram for more than 90 days.
Violation Notes: Returned to compliance on 07/03/2019.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 565384
Site Name: Prompt Cleaners
Violation Date: 02-16-2016
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description: Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes: Returned to compliance on 04/07/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 565384
Site Name: Prompt Cleaners
Violation Date: 02-05-2019
Citation: HSC 6.5 25123.3(h)(1)(C) - California Health and Safety Code, Chapter 6.5, Section(s) 25123.3(h)(1)(C)

LAGUNA BEACH DENTAL GROUP (Continued) **S124837605**

Violation Description:	Failure to send hazardous waste offsite for treatment, storage, or disposal of acute/extremely hazardous waste after the first 1-kilogram threshold amount was accumulated within a 90 day period.
Violation Notes:	Returned to compliance on 07/03/2019.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	565384
Site Name:	Prompt Cleaners
Violation Date:	02-05-2019
Citation:	40 CFR 1 265.33 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.33
Violation Description:	Failure to test and maintain as necessary all facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment to assure its proper operation in time of emergency.
Violation Notes:	Returned to compliance on 07/03/2019.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	565384
Site Name:	Prompt Cleaners
Violation Date:	02-16-2016
Citation:	22 CCR 15 66265.33 - California Code of Regulations, Title 22, Chapter 15, Section(s) 66265.33
Violation Description:	Failure of the facility to test and maintain all communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment.
Violation Notes:	Returned to compliance on 04/07/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	565384
Site Name:	Prompt Cleaners
Violation Date:	02-16-2016
Citation:	22 CCR 12 66262.12 - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.12
Violation Description:	Failure to obtain and/or maintain an Active EPA ID.
Violation Notes:	Returned to compliance on 04/07/2016.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	565384
Site Name:	Prompt Cleaners
Violation Date:	02-05-2019
Citation:	22 CCR 12 66262.40(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.40(a)
Violation Description:	Failure to keep a copy of each properly signed manifest for at least three years from the date the waste was accepted by the initial transporter. The manifest signed at the time the waste was accepted for transport shall be kept until receiving a signed copy from the designated facility which received the waste.
Violation Notes:	Returned to compliance on 07/03/2019.

LAGUNA BEACH DENTAL GROUP (Continued) **S124837605**

Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 565384
Site Name: Prompt Cleaners
Violation Date: 02-16-2016
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit a site map with all required content.
Violation Notes: Returned to compliance on 04/07/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 565384
Site Name: Prompt Cleaners
Violation Date: 02-16-2016
Citation: HSC 6.11 25404.1 - California Health and Safety Code, Chapter 6.11, Section(s) 25404.1
Violation Description: Failure to obtain and/or maintain an active hazardous waste generator permit.
Violation Notes: Returned to compliance on 04/07/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-05-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-16-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown

LAGUNA BEACH DENTAL GROUP (Continued) **S124837605**

Eval Date: 03-01-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 03-18-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-03-2019
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Enforcement Action:
Site ID: 565384
Site Name: Prompt Cleaners
Site Address: 23905 CLINTON KEITH RD #119
Site City: WILDOMAR
Site Zip: 92595
Enf Action Date: 02-16-2016
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS

Site ID: 565384
Site Name: Prompt Cleaners
Site Address: 23905 CLINTON KEITH RD #119
Site City: WILDOMAR
Site Zip: 92595
Enf Action Date: 02-16-2016
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HW
Enf Action Source: CERS

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: OK H. Kim

LAGUNA BEACH DENTAL GROUP (Continued) **S124837605**

Entity Title:	Not reported
Affiliation Address:	23905 Clinton Keith Road, Suite #119
Affiliation City:	Wildomar
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92595
Affiliation Phone:	Not reported
Affiliation Type Desc:	Legal Owner
Entity Name:	OK H. Kim
Entity Title:	Not reported
Affiliation Address:	23676 SPRING OAK PL
Affiliation City:	MURRIETA
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92562
Affiliation Phone:	(714) 343-1582
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	23905 Clinton Keith Rd #119
Affiliation City:	Wildomar
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92595
Affiliation Phone:	Not reported
Affiliation Type Desc:	Operator
Entity Name:	Prompt Cleaners
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(714) 343-1582
Affiliation Type Desc:	Parent Corporation
Entity Name:	Prompt Cleaners
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	CUPA District
Entity Name:	Riverside Cnty Env Health
Entity Title:	Not reported
Affiliation Address:	4065 County Circle Drive, Room 104
Affiliation City:	Riverside
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92503
Affiliation Phone:	(951) 358-5055

LAGUNA BEACH DENTAL GROUP (Continued) **S124837605**

Affiliation Type Desc:	Document Preparer
Entity Name:	Riverside County Proxy Submittal
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

HWTS:

Name:	LAGUNA BEACH DENTAL GROUP
Address:	23905 CLINTON KEITH RD
Address 2:	Not reported
City,State,Zip:	WILDOMAR, CA 925957897
EPA ID:	CAL000257182
Inactive Date:	06/30/2003
Create Date:	08/06/2002
Last Act Date:	06/15/2004
Mailing Name:	Not reported
Mailing Address:	129 W Wilson St Ste 200
Mailing Address 2:	Not reported
Mailing City,State,Zip:	COSTA MESA, CA 92627
Owner Name:	WATANABE DENTAL CORP
Owner Address:	23905 Clinton Keith Rd
Owner Address 2:	Not reported
Owner City,State,Zip:	LAGUNA BEACH, CA 92595
Contact Name:	BRADY AASE CONTROLLER
Contact Address:	129 W WILSON ST 200
Contact Address 2:	Not reported
City,State,Zip:	COSTA MESA, CA 926270000

NAICS:

EPA ID:	CAL000257182
Create Date:	2002-08-06 16:55:15.640
NAICS Code:	62121
NAICS Description:	Offices of Dentists
Issued EPA ID Date:	2002-08-06 16:55:15.61000
Inactive Date:	2003-06-30 00:00:00
Facility Name:	LAGUNA BEACH DENTAL GROUP
Facility Address:	23905 CLINTON KEITH RD
Facility Address 2:	Not reported
Facility City:	WILDOMAR
Facility County:	Not reported
Facility State:	CA
Facility Zip:	925957897

B10 **PROMPT CLEANERS, OK HWAN KIM DBA** **DRYCLEANERS** **S121695097**
South **23905 CLINTON KEITH RD #119** **HAZNET** **N/A**
< 1/8 **WILDOMAR, CA 92595** **HWTS**
0.087 mi.
462 ft. **Site 3 of 7 in cluster B**

Relative:
Lower

Actual:
1342 ft.

DRYCLEAN SOUTH COAST:

Name:	PROMPT CLEANERS, OK HWAN KIM DBA
Address:	23905 CLINTON KEITH RD #119
City,State,Zip:	WILDOMAR, CA 92595
Facility ID:	134217
Application Number:	407417
Permit Number:	F55833
Status:	A
Representative Name:	OK HWAN KIM
Representative Telephone:	714 3505508
Permit Status:	INACTIVE
BCAT Number:	000233
BCAT Description:	DRY CLEANING EQUIP PETROLEUM SOLVENT
CCAT Number:	Not reported
CCAT Description:	Not reported
UTM East:	0
UTM North:	0
Application Date:	09/26/2002
PO Issue Date:	10/24/2002
NAICS Code:	812320
SIC Code:	7216

Name:	PROMPT CLEANERS, OK HWAN KIM DBA
Address:	23905 CLINTON KEITH RD #119
City,State,Zip:	WILDOMAR, CA 92595
Facility ID:	134217
Application Number:	610789
Permit Number:	G56608
Status:	A
Representative Name:	OK HWAN KIM
Representative Telephone:	714 3505508
Permit Status:	ACTIVE
BCAT Number:	000233
BCAT Description:	DRY CLEANING EQUIP PETROLEUM SOLVENT
CCAT Number:	Not reported
CCAT Description:	Not reported
UTM East:	0
UTM North:	0
Application Date:	02/28/2019
PO Issue Date:	03/23/2019
NAICS Code:	812320
SIC Code:	7216

HAZNET:

Name:	PROMT CLEANERS
Address:	23905 CLINTON KEITH RD STE 119
Address 2:	Not reported
City,State,Zip:	WILDOMAR, CA 925950000
Contact:	OKHWAN KIM
Telephone:	9513047572
Mailing Name:	Not reported
Mailing Address:	23905 CLINTON KEITH RD STE 119

PROMPT CLEANERS, OK HWAN KIM DBA (Continued) **S121695097**

Year: 2008
Gepaid: CAL000265634
TSD EPA ID: NVR000076158
CA Waste Code: 213 - Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Disposal Method: H020 - Solvents Recovery
Tons: 0.125

Year: 2008
Gepaid: CAL000265634
TSD EPA ID: NVR000076158
CA Waste Code: 134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method: H020 - Solvents Recovery
Tons: Not reported

Year: 2008
Gepaid: CAL000265634
TSD EPA ID: NVR000076158
CA Waste Code: 211 - Halogenated solvents (chloroforms, methyl chloride, perchloroethylene, etc)
Disposal Method: H020 - Solvents Recovery
Tons: Not reported

Year: 2007
Gepaid: CAL000265634
TSD EPA ID: NVR000076158
CA Waste Code: 134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method: H020 - Solvents Recovery
Tons: Not reported

Year: 2007
Gepaid: CAL000265634
TSD EPA ID: NVR000076158
CA Waste Code: 213 - Hydrocarbon solvents (benzene, hexane, Stoddard, Etc.)
Disposal Method: H020 - Solvents Recovery
Tons: 0.15

Year: 2007
Gepaid: CAL000265634
TSD EPA ID: NVR000076158
CA Waste Code: 211 - Halogenated solvents (chloroforms, methyl chloride, perchloroethylene, etc)
Disposal Method: H020 - Solvents Recovery
Tons: Not reported

Additional Info:
Year: 2007
Gen EPA ID: CAL000265634

Shipment Date: 20071130
Creation Date: 5/15/2008 18:30:08
Receipt Date: 20071203
Manifest ID: 000272339GBF
Trans EPA ID: CAR000166827
Trans Name: AMERICAN INDUSTRIAL SERVICES

PROMPT CLEANERS, OK HWAN KIM DBA (Continued) **S121695097**

Trans 2 EPA ID:	CAR000161836
Trans 2 Name:	TECHNICHEM INC
TSDF EPA ID:	NVR000076158
Trans Name:	RESOLVENT INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	211 - Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.
RCRA Code:	F002
Meth Code:	H020 - Solvents Recovery
Quantity Tons:	Not reported
Waste Quantity:	Not reported
Quantity Unit:	Not reported
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20071130
Creation Date:	5/15/2008 18:30:08
Receipt Date:	20071203
Manifest ID:	000272339GBF
Trans EPA ID:	CAR000166827
Trans Name:	AMERICAN INDUSTRIAL SERVICES
Trans 2 EPA ID:	CAR000161836
Trans 2 Name:	TECHNICHEM INC
TSDF EPA ID:	NVR000076158
Trans Name:	RESOLVENT INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	213 - Hydrocarbon solvents (benzene, hexane, Stoddard, etc.
RCRA Code:	Not reported
Meth Code:	H020 - Solvents Recovery
Quantity Tons:	0.15
Waste Quantity:	300
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20071130
Creation Date:	5/15/2008 18:30:08
Receipt Date:	20071203
Manifest ID:	000272339GBF
Trans EPA ID:	CAR000166827
Trans Name:	AMERICAN INDUSTRIAL SERVICES
Trans 2 EPA ID:	CAR000161836
Trans 2 Name:	TECHNICHEM INC
TSDF EPA ID:	NVR000076158
Trans Name:	RESOLVENT INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	D039

PROMPT CLEANERS, OK HWAN KIM DBA (Continued) **S121695097**

Meth Code:	H020 - Solvents Recovery
Quantity Tons:	Not reported
Waste Quantity:	Not reported
Quantity Unit:	Not reported
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20071130
Creation Date:	5/15/2008 18:30:08
Receipt Date:	20071203
Manifest ID:	000272339GBF
Trans EPA ID:	CAR000166827
Trans Name:	AMERICAN INDUSTRIAL SERVICES
Trans 2 EPA ID:	CAR000161836
Trans 2 Name:	TECHNICHEM INC
TSDF EPA ID:	NVR000076158
Trans Name:	RESOLVENT INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	211 - Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.
RCRA Code:	F002
Meth Code:	H020 - Solvents Recovery
Quantity Tons:	Not reported
Waste Quantity:	Not reported
Quantity Unit:	Not reported
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2008
Gen EPA ID:	CAL000265634
Shipment Date:	20080606
Creation Date:	11/17/2008 18:30:24
Receipt Date:	20080613
Manifest ID:	000380848GBF
Trans EPA ID:	CAR000166827
Trans Name:	AMERICAN INDUSTRIAL SERVICES
Trans 2 EPA ID:	CAR000161836
Trans 2 Name:	TECHNICHEM INC
TSDF EPA ID:	NVR000076158
Trans Name:	RESOLVENT INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	211 - Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.
RCRA Code:	F002
Meth Code:	H020 - Solvents Recovery
Quantity Tons:	Not reported
Waste Quantity:	Not reported

PROMPT CLEANERS, OK HWAN KIM DBA (Continued) **S121695097**

Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20080606
Creation Date:	11/17/2008 18:30:24
Receipt Date:	20080613
Manifest ID:	000380848GBF
Trans EPA ID:	CAR000166827
Trans Name:	AMERICAN INDUSTRIAL SERVICES
Trans 2 EPA ID:	CAR000161836
Trans 2 Name:	TECHNICHEM INC
TSDF EPA ID:	NVR000076158
Trans Name:	RESOLVENT INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	213 - Hydrocarbon solvents (benzene, hexane, Stoddard, etc.
RCRA Code:	Not reported
Meth Code:	H020 - Solvents Recovery
Quantity Tons:	0.125
Waste Quantity:	250
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20080606
Creation Date:	11/17/2008 18:30:24
Receipt Date:	20080613
Manifest ID:	000380848GBF
Trans EPA ID:	CAR000166827
Trans Name:	AMERICAN INDUSTRIAL SERVICES
Trans 2 EPA ID:	CAR000161836
Trans 2 Name:	TECHNICHEM INC
TSDF EPA ID:	NVR000076158
Trans Name:	RESOLVENT INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	D039
Meth Code:	H020 - Solvents Recovery
Quantity Tons:	Not reported
Waste Quantity:	Not reported
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20080606
Creation Date:	11/17/2008 18:30:24

PROMPT CLEANERS, OK HWAN KIM DBA (Continued) **S121695097**

Receipt Date:	20080613
Manifest ID:	000380848GBF
Trans EPA ID:	CAR000166827
Trans Name:	AMERICAN INDUSTRIAL SERVICES
Trans 2 EPA ID:	CAR000161836
Trans 2 Name:	TECHNICHEM INC
TSDF EPA ID:	NVR000076158
Trans Name:	RESOLVENT INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	211 - Halogenated solvents (chloroform, methyl chloride, perchloroethylene, etc.
RCRA Code:	F002
Meth Code:	H020 - Solvents Recovery
Quantity Tons:	Not reported
Waste Quantity:	Not reported
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

HWTS:

Name:	PROMPT CLEANERS
Address:	23905 CLINTON KEITH RD STE 119
Address 2:	Not reported
City,State,Zip:	WILDOMAR, CA 925950000
EPA ID:	CAL000265634
Inactive Date:	Not reported
Create Date:	01/30/2003
Last Act Date:	07/22/2020
Mailing Name:	Not reported
Mailing Address:	23905 CLINTON KEITH RD STE 119
Mailing Address 2:	Not reported
Mailing City,State,Zip:	WILDOMAR, CA 925950000
Owner Name:	OK H KIM
Owner Address:	23676 SPRING OAK PL
Owner Address 2:	Not reported
Owner City,State,Zip:	MURRIETA, CA 92562
Contact Name:	OK HWAN KIM
Contact Address:	23905 CLINTON KEITH RD STE 119
Contact Address 2:	Not reported
City,State,Zip:	WILDOMAR, CA 92595

NAICS:

EPA ID:	CAL000265634
Create Date:	2004-10-20 10:23:57.043
NAICS Code:	81232
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
Issued EPA ID Date:	2003-01-30 12:18:37.15300
Inactive Date:	Not reported
Facility Name:	PROMPT CLEANERS
Facility Address:	23905 CLINTON KEITH RD STE 119
Facility Address 2:	Not reported
Facility City:	WILDOMAR
Facility County:	Not reported

PROMPT CLEANERS, OK HWAN KIM DBA (Continued) **S121695097**

Facility State:	CA
Facility Zip:	925950000

B11
South
< 1/8
0.087 mi.
462 ft.

PROMPT CLEANERS **RCRA NonGen / NLR** **1024805794**
23905 CLINTON KEITH RD STE 119 **CAL000265634**
WILDOMAR, CA 92595

Site 4 of 7 in cluster B

Relative:
Lower

Actual:
1342 ft.

RCRA NonGen / NLR:

Date Form Received by Agency:		2003-01-30 00:00:00.0
Handler Name:	PROMPT CLEANERS	
Handler Address:		23905 CLINTON KEITH RD STE 119
Handler City,State,Zip:		WILDOMAR, CA 92595-0000
EPA ID:		CAL000265634
Contact Name:		OK HWAN KIM
Contact Address:		23905 CLINTON KEITH RD STE 119
Contact City,State,Zip:		WILDOMAR, CA 92595
Contact Telephone:		951-304-7572
Contact Fax:		000-000-0000
Contact Email:		BESTECH4@VERIZON.NET
Contact Title:		Not reported
EPA Region:		09
Land Type:		Not reported
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Handler Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		23905 CLINTON KEITH RD STE 119
Mailing City,State,Zip:		WILDOMAR, CA 92595-0000
Owner Name:		OK H KIM
Owner Type:		Other
Operator Name:		OK HWAN KIM
Operator Type:		Other
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		Yes
Universal Waste Destination Facility:		Yes
Federal Universal Waste:		No
Active Site Fed-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site Converter Treatment storage and Disposal Facility:		Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported

PROMPT CLEANERS (Continued) **1024805794**

Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2018-09-05 20:24:42.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	OK HWAN KIM
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23905 CLINTON KEITH RD STE 119
Owner/Operator City,State,Zip:	WILDOMAR, CA 92595
Owner/Operator Telephone:	951-304-7572
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	OK H KIM
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	23676 SPRING OAK PL
Owner/Operator City,State,Zip:	MURRIETA, CA 92562

PROMPT CLEANERS (Continued) **1024805794**

Owner/Operator Telephone: 714-343-1582
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 2003-01-30 00:00:00.0
Handler Name: PROMPT CLEANERS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 81232
NAICS Description: DRYCLEANING AND LAUNDRY SERVICES (EXCEPT COIN-OPERATED)

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

B12 **PROMPT CLEANERS** **DRYCLEANERS** **S113124626**
South **23905 CLINTON KEITH RD STE 119** **N/A**
< 1/8 **WILDOMAR, CA 92595**
0.087 mi.
462 ft. **Site 5 of 7 in cluster B**

Relative: **Lower**
Actual: **1342 ft.**

DRYCLEANERS:
Name: PROMPT CLEANERS
Address: 23905 CLINTON KEITH RD STE 119
City,State,Zip: WILDOMAR, CA 925950000
EPA Id: CAL000265634
NAICS Code: 81232
NAICS Description: Drycleaning and Laundry Services (except Coin-Operated)
SIC Code: 7211
SIC Description: Power Laundries, Family and Commercial
Create Date: 01/30/2003
Facility Active: Yes
Inactive Date: Not reported
Facility Addr2: Not reported
Owner Name: OK H KIM
Owner Address: 23676 SPRING OAK PL
Owner Address 2: Not reported
Owner Telephone: 7143431582
Contact Name: OK HWAN KIM
Contact Address: 23905 CLINTON KEITH RD STE 119
Contact Address 2: Not reported

PROMPT CLEANERS (Continued) **S113124626**

Contact Telephone:	9513047572
Contact Fax:	0
Mailing Name:	Not reported
Mailing Address 1:	23905 CLINTON KEITH RD STE 119
Mailing Address 2:	Not reported
Mailing City:	WILDOMAR
Mailing State:	CA
Mailing Zip:	925950000
Owner Fax:	Not reported
Region Code:	4
Latitude:	33.596217
Longitude:	-117.244379

C13 **KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON** **RCRA NonGen / NLR** **1024805359**
SSW **23805 CLINTON KEITH RD** **CAL000263268**
< 1/8 **WILDOMAR, CA 92595**
0.101 mi.
532 ft. **Site 1 of 6 in cluster C**

Relative: RCRA NonGen / NLR:
Lower

Actual:
1323 ft.

Date Form Received by Agency:	2002-12-06 00:00:00.0
Handler Name:	KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON
Handler Address:	23805 CLINTON KEITH RD
Handler City,State,Zip:	WILDOMAR, CA 92595
EPA ID:	CAL000263268
Contact Name:	TONY CASAREZ
Contact Address:	5820 OBERLIN DR STE 201
Contact City,State,Zip:	SAN DIEGO, CA 92121
Contact Telephone:	858-404-6084
Contact Fax:	858-404-6081
Contact Email:	TONY@KAENTERPRISES.NET
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	5820 OBERLIN DR STE 201
Mailing City,State,Zip:	SAN DIEGO, CA 92121-0000
Owner Name:	KA MANAGEMENT INC
Owner Type:	Other
Operator Name:	TONY CASAREZ
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **1024805359**

Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2018-09-05 20:24:33.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	KA MANAGEMENT INC
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	5820 OBERLIN DR STE 201
Owner/Operator City,State,Zip:	SAN DIEGO, CA 92121-0000
Owner/Operator Telephone:	858-404-6080
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **1024805359**

Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TONY CASAREZ
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 5820 OBERLIN DR STE 201
Owner/Operator City,State,Zip: SAN DIEGO, CA 92121
Owner/Operator Telephone: 858-404-6084
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 2002-12-06 00:00:00.0
Handler Name: KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 44719
NAICS Description: OTHER GASOLINE STATIONS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C14 **KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON** **CERS HAZ WASTE** **S113123680**
SSW **23805 CLINTON KEITH RD** **CERS TANKS** **N/A**
< 1/8 **WILDOMAR, CA 92595** **HAZNET**
0.101 mi. **CERS**
532 ft. **Site 2 of 6 in cluster C** **HWTS**

Relative:
Lower

Actual:
1323 ft.

CERS HAZ WASTE:
Name: SHELL OIL PRODUCTS US
Address: 23805 CLINTON KEITH ROAD
City,State,Zip: WILDOMAR, CA 92595
Site ID: 20450
CERS ID: 10321507
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: SHELL OIL PRODUCTS US

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Address: 23805 CLINTON KEITH ROAD
City,State,Zip: WILDOMAR, CA 92595
Site ID: 20450
CERS ID: 10321507
CERS Description: Underground Storage Tank

HAZNET:
Name: KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON
Address: 23805 CLINTON KEITH RD
Address 2: Not reported
City,State,Zip: WILDOMAR, CA 921210000
Contact: TONY CASAREZ
Telephone: 8584046084
Mailing Name: Not reported
Mailing Address: 5820 OBERLIN DR STE 201

Year: 2019
Gepaid: CAL000263268
TSD EPA ID: CAD097030993
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.15000

Year: 2015
Gepaid: CAL000263268
TSD EPA ID: AZR000506980
CA Waste Code: 352 - Other organic solids
Disposal Method: -
Tons: 0.2

Year: 2014
Gepaid: CAL000263268
TSD EPA ID: CAD982444481
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.125

Year: 2012
Gepaid: CAL000263268
TSD EPA ID: CAD008252405
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Tons: 0.068

Year: 2012
Gepaid: CAL000263268
TSD EPA ID: CAD008252405
CA Waste Code: 352 - Other organic solids
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.1

Year: 2010
Gepaid: CAL000263268
TSD EPA ID: CAD981696420

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

CA Waste Code:	223 - Unspecified oil-containing waste
Disposal Method:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.85902
Year:	2009
Gepaid:	CAL000263268
TSD EPA ID:	NVT330010000
CA Waste Code:	352 - Other organic solids
Disposal Method:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.18
Year:	2009
Gepaid:	CAL000263268
TSD EPA ID:	CAT080013352
CA Waste Code:	134 - Aqueous solution with total organic residues less than 10 percent
Disposal Method:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	0.0966
Year:	2007
Gepaid:	CAL000263268
TSD EPA ID:	CAD981696420
CA Waste Code:	135 - Unspecified aqueous solution
Disposal Method:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	1.68
Year:	2004
Gepaid:	CAL000263268
TSD EPA ID:	CAD028409019
CA Waste Code:	135 - Unspecified aqueous solution
Disposal Method:	T01 - Treatment, Tank
Tons:	0.693

Click this hyperlink while viewing on your computer to access additional CA HAZNET: detail in the EDR Site Report.

Additional Info:

Year:	2015
Gen EPA ID:	CAL000263268
Shipment Date:	20150527
Creation Date:	1/27/2016 22:15:12
Receipt Date:	Not reported
Manifest ID:	009973375JJK
Trans EPA ID:	CAD981996895
Trans Name:	JSE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	AZR000506980
Trans Name:	SOUTH YUMA COUNTY LANDFILL
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	- Not reported
Quantity Tons:	0.075
Waste Quantity:	150
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150527
Creation Date:	1/27/2016 22:15:12
Receipt Date:	Not reported
Manifest ID:	009973375JJK
Trans EPA ID:	CAD981996895
Trans Name:	JSE ENVIRONMENTAL SERVICES INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	AZR000506980
Trans Name:	SOUTH YUMA COUNTY LANDFILL
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	- Not reported
Quantity Tons:	0.125
Waste Quantity:	250
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2004
Gen EPA ID:	CAL000263268
Shipment Date:	20040408
Creation Date:	10/14/2004 7:49:48
Receipt Date:	20040409
Manifest ID:	22399832
Trans EPA ID:	CAD045226370
Trans Name:	TYREE ORG
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD028409019
Trans Name:	CROSBY & OVERTON
TSDF Alt EPA ID:	CAD028409019
TSDF Alt Name:	Not reported
Waste Code Description:	135 - Unspecified aqueous solution
RCRA Code:	Not reported
Meth Code:	T01 - Treatment, Tank
Quantity Tons:	0.693
Waste Quantity:	165

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2012
Gen EPA ID:	CAL000263268
Shipment Date:	20120531
Creation Date:	5/31/2013 22:15:05
Receipt Date:	20120607
Manifest ID:	009484064JJK
Trans EPA ID:	CAD982413262
Trans Name:	EVERGREEN ENVIRONMENTAL SERVICES
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008252405
Trans Name:	PACIFIC RESOURCE RECOVERY
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D018
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.1
Waste Quantity:	200
Quantity Unit:	P
Additional Code 1:	D001
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20120531
Creation Date:	5/31/2013 22:15:05
Receipt Date:	20120607
Manifest ID:	009484064JJK
Trans EPA ID:	CAD982413262
Trans Name:	EVERGREEN ENVIRONMENTAL SERVICES
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008252405
Trans Name:	PACIFIC RESOURCE RECOVERY
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	343 - Unspecified organic liquid mixture
RCRA Code:	D018
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.068
Waste Quantity:	20
Quantity Unit:	G
Additional Code 1:	D001
Additional Code 2:	Not reported
Additional Code 3:	Not reported

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2014
Gen EPA ID:	CAL000263268
Shipment Date:	20140811
Creation Date:	10/2/2014 22:15:00
Receipt Date:	20140814
Manifest ID:	010180913JJK
Trans EPA ID:	CAR000163097
Trans Name:	JSE ENVIRONMENTAL SERVICES INC/KVAC ENVIRONMENTAL
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD982444481
Trans Name:	FILTER RECYCLING SERVICES INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.125
Waste Quantity:	250
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2010
Gen EPA ID:	CAL000263268
Shipment Date:	20100720
Creation Date:	9/10/2010 18:31:02
Receipt Date:	20100720
Manifest ID:	007135425JJK
Trans EPA ID:	CAD982413262
Trans Name:	EVERGREEN ENVIRONMENTAL SERVICES
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD981696420
Trans Name:	EVERGREEN ENVIRONMENTAL SERVICES
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	223 - Unspecified oil-containing waste
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.85902
Waste Quantity:	206
Quantity Unit:	G
Additional Code 1:	Not reported

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2009
Gen EPA ID:	CAL000263268
Shipment Date:	20090617
Creation Date:	8/3/2009 18:30:20
Receipt Date:	20090622
Manifest ID:	002122910FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	CAT080016116
Trans 2 Name:	NIETO & SONS TRUCKING
TSDF EPA ID:	CAT080013352
Trans Name:	DEMENNO KERDOON
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	134 - Aqueous solution with <10% total organic residues
RCRA Code:	Not reported
Meth Code:	H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Quantity Tons:	0.0966
Waste Quantity:	23
Quantity Unit:	G
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090617
Creation Date:	10/13/2009 18:30:21
Receipt Date:	20090619
Manifest ID:	002122909FLE
Trans EPA ID:	CAR000183913
Trans Name:	BELSHIRE
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	NVT330010000
Trans Name:	US ECOLOGY NEVADA OPERATIONS
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Quantity Tons:	0.18
Waste Quantity:	360
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Additional Code 5: Not reported

Additional Info:
Year: 2007
Gen EPA ID: CAL000263268

Shipment Date: 20070716
Creation Date: 11/5/2007 18:30:21
Receipt Date: 20070720
Manifest ID: 001465911JJK
Trans EPA ID: CAD982413262
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES
Trans 2 EPA ID: Not reported
Trans 2 Name: Not reported
TSDF EPA ID: CAD981696420
Trans Name: EVERGREEN ENVIRONMENTAL SERVICES
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 135 - Unspecified aqueous solution
RCRA Code: Not reported
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 1.68
Waste Quantity: 400
Quantity Unit: G
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

CERS:
Name: SHELL OIL PRODUCTS US
Address: 23805 CLINTON KEITH ROAD
City,State,Zip: WILDOMAR, CA 92595
Site ID: 20450
CERS ID: 10321507
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 06-11-2014
Citation: 23 CCR 16 2636(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)
Violation Description: Failure to continuously monitor the interstitial space of the tank, piping and/or sumps sump such that the leak detection activates an audible/visual alarm when a leak is detected.
Violation Notes: Returned to compliance on 07/30/2014.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 05-28-2019
Citation: 23 CCR 16 2716(e) - California Code of Regulations, Title 23, Chapter

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

	16, Section(s) 2716(e)
Violation Description:	For designated operator (DO) monthly inspections conducted before October 1, 2018, failure to comply with one or more of the following requirements: Be performed by an ICC certified DO. Inspect monthly alarm history report, check that alarms are documented and responded to appropriately, and attach a copy. Inspect for the presence of liquid/debris in spill containers. Inspect for the presence of liquid/debris in under dispenser containment (UDC) and ensure that the monitoring equipment is positioned correctly. Inspect for liquid or debris in containment sumps where an alarm occurred with no service visit. Check that all testing and maintenance has been completed and documented. Verify that all facility employees have been trained in accordance with 23 CCR 2715(c). For designated operator (DO) 30 day inspections conducted on and after October 1, 2018, failure to conduct the designated UST operator visual inspection at least once every 30 days.
Violation Notes:	Returned to compliance on 07/16/2019. OBSERVATION: Observed that Designated Operator inspections are being improperly performed. DO report for December was conducted by Jesse Kirk III whose ICC cert expired 3 days before the inspection was conducted (12/18/2018). Also veeder root print outs were not attached to DO reports for the month of July-October. CORRECTIVE ACTION: Owner/operator shall ensure that the Designated Operator is properly conducting inspections, noting observations, reviewing paperwork and alarm history reports, attaching required documentation and any other DO required functions.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	06-05-2017
Citation:	22 CCR 12 66262.12 - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.12
Violation Description:	Failure to obtain an Identification Number prior to treating, storing, disposing of, transporting or offering for transportation any hazardous waste.
Violation Notes:	Returned to compliance on 07/12/2017.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	06-11-2014
Citation:	HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description:	Business Plan Program - Administration/Documentation - General
Violation Notes:	Returned to compliance on 07/08/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	06-11-2014
Citation:	HSC 6.7 25291 - California Health and Safety Code, Chapter 6.7,

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

	Section(s) 25291
Violation Description:	Failure to maintain under-dispenser containment, sumps, and/or other secondary containment in good condition and/or free of debris/liquid.
Violation Notes:	Returned to compliance on 08/15/2014.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	12-20-2016
Citation:	19 CCR 6.95 25508(a)(1) - California Code of Regulations, Title 19, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit the Business Activities Page and/or Business Owner Operator Identification Page.
Violation Notes:	Returned to compliance on 04/28/2017.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	05-28-2019
Citation:	HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2
Violation Description:	"Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container. Tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. "
Violation Notes:	Returned to compliance on 07/16/2019. OBSERVATION: Observed Diesel and 91 drain valve to be leaking and would not hold liquid. CORRECTIVE ACTION: Owner/operator shall repair/replace the leaking diesel and 91 drain valve so that bucket is able to hold liquid and contain release until detected.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	06-11-2014
Citation:	23 CCR 16 2715(c)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)(2)
Violation Description:	Failure to comply with one or more of the following: maintain the spill bucket in good condition, containment free of debris/liquid, and/or to remove the contents of the spill bucket when a release/leak/spill was observed.
Violation Notes:	Returned to compliance on 06/18/2014.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 12-20-2016
Citation: HSC 6.95 25505(a)(4) - California Health and Safety Code, Chapter 6.95, Section(s) 25505(a)(4)
Violation Description: Failure to provide initial and annual training to all employees in safety procedures in the event of a release or threatened release of a hazardous material or failure to document and maintain training records for a minimum of three years.
Violation Notes: Returned to compliance on 04/28/2017.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 06-11-2014
Citation: 22 CCR 12 66262.34(a) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(a)
Violation Description: Failure to obtain a permit or grant of interim status to accumulate hazardous waste longer than 90 days.
Violation Notes: Returned to compliance on 09/11/2014.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 12-20-2016
Citation: 40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173
Violation Description: Failure to meet the following container management requirements: (a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste. (b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.
Violation Notes: Returned to compliance on 04/28/2017.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 06-05-2017
Citation: 23 CCR 16 2641(j) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(j)
Violation Description: Failure of the leak detection equipment to be installed, calibrated, operated, and/or maintained properly.
Violation Notes: Returned to compliance on 06/06/2017.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 06-05-2017

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Citation:	HSC 6.7 25292.1(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25292.1(a)
Violation Description:	Failure to operate the UST system to prevent unauthorized releases including leaks, spills, and/or overfills.
Violation Notes:	Returned to compliance on 07/12/2017.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	06-11-2014
Citation:	23 CCR 16 2715(c)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)(2)
Violation Description:	Failure to comply with one or more of the following: maintain the spill bucket in good condition, containment free of debris/liquid, and/or to remove the contents of the spill bucket when a release/leak/spill was observed.
Violation Notes:	Returned to compliance on 08/15/2014.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	07-10-2019
Citation:	23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description:	Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1,- 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October- 1,- 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.
Violation Notes:	Returned to compliance on 07/16/2019.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	06-05-2017
Citation:	22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description:	Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes:	Returned to compliance on 07/12/2017.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS

Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	05-28-2019
Citation:	HSC 6.7 25290.1(d) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(d)
Violation Description:	Failure of a UST system installed on or after July 1, 2004 to be designed and constructed with a monitoring system capable of detecting the entry of the liquid or vapor-phase of the hazardous substance stored in the primary containment into the secondary containment and capable of detecting water intrusion into the secondary containment.
Violation Notes:	Returned to compliance on 07/16/2019. OBSERVATION: Observed at E85 turbine sump s-2 vacuum sensor failed indicating a leak in the secondary containment of the noted components. CORRECTIVE ACTION: Owner/operator shall investigate the source of the leak and make the necessary repairs to the secondary containment system so that system is tight and capable of detecting a leak or water intrusion. Any repairs to the secondary containment system will require the submittal of plans to this Department and plans must be approved prior to starting any work.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS

Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	07-10-2019
Citation:	HSC 6.7 25284.2 - California Health and Safety Code, Chapter 6.7, Section(s) 25284.2
Violation Description:	"Failure to meet one or more of the following requirements: Install or maintain a liquid-tight spill container. Have a minimum capacity of five gallons. Have a functional drain valve or other method for the removal of liquid from the spill container. Be resistant to galvanic corrosion. Perform a tightness test at installation, every 12 months thereafter, or within 30 days after a repair to the spill container. Tested using applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Tested by a certified UST service technician. Maintain records of spill containment testing for 36 months. "
Violation Notes:	Returned to compliance on 07/16/2019.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 05-30-2018
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Description: Failure to have an approved UST Monitoring Plan.
Violation Notes: Returned to compliance on 06/13/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 12-20-2016
Citation: Un-Specified
Violation Description: Business Plan Program - Operations/Maintenance - General Local Ordinance
Violation Notes: Returned to compliance on 04/28/2017.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 12-20-2016
Citation: 22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description: Failure to properly label hazardous waste accumulation containers and portable tanks with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes: Returned to compliance on 04/28/2017.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 06-05-2017
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description: Failure of the overfill prevention system to meet one of the following requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.
Violation Notes: Returned to compliance on 07/12/2017.
Violation Division: Riverside County Department of Env Health
Violation Program: UST

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	05-28-2019
Citation:	23 CCR 16 2712(b)(1)(G) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(b)(1)(G)
Violation Description:	Failure to comply with one or more of the following overfill prevention equipment requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling. Install/retrofit overfill prevention equipment that does not use flow restrictors on vent piping to meet overfill prevention equipment requirements when the overfill prevention equipment is installed, repaired, or replaced on and after October 1,- 2018. For USTs installed before October 1, 2018, perform an inspection by October 13, 2018 and every 36 months thereafter. For USTs installed on and after October- 1,- 2018, perform an inspection at installation and every 36 months thereafter. Inspected within 30 days after a repair to the overfill prevention equipment. Inspected using an applicable manufacturer guidelines, industry codes, engineering standards, or a method approved by a professional engineer. Inspected by a certified UST service technician. Maintain records of overfill prevention equipment inspection for 36 months.
Violation Notes:	Returned to compliance on 07/16/2019. OBSERVATION: An overfill equipment inspection was not completed by the October 13, 2018 deadline. CORRECTIVE ACTION: Owner/operator shall immediately schedule and complete an overfill equipment inspection providing the required 48 hour notification prior to conducting the inspection. Inspection results and all supporting documentation (inspection procedures used, tank charts, printouts, etc.) must be submitted to this Department within 30 days upon completion of the inspection.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	05-30-2018
Citation:	23 CCR 16 2632(c)(2)(A)&(B) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(c)(2)(A)&(B)
Violation Description:	Failure to continuously monitor the interstitial space of a double-walled tank with an audible and visual alarm system.
Violation Notes:	Returned to compliance on 05/30/2018. diesel stp sensor failed
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Violation Date:	06-11-2014
Citation:	HSC 6.7 Multiple Sections - California Health and Safety Code, Chapter 6.7, Section(s) Multiple Sections
Violation Description:	UST Program - Administration/Documentation - General
Violation Notes:	Returned to compliance on 07/08/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	06-11-2014
Citation:	22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description:	Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes:	Returned to compliance on 08/22/2014.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	05-30-2018
Citation:	23 CCR 16 2641(j) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(j)
Violation Description:	Failure of the leak detection equipment to be installed, calibrated, operated, and/or maintained properly.
Violation Notes:	Returned to compliance on 05/30/2018. 87 fill sensor
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	05-30-2018
Citation:	23 CCR 16 2644.1(a)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2644.1(a)(2)
Violation Description:	Failure to demonstrate to the UPA that the equipment and methods used to monitor the UST system are certified by an independent third-party as complying with the standards set forth in 23 CCR 2643(f).
Violation Notes:	Returned to compliance on 06/13/2018.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	12-20-2016
Citation:	40 CFR 1 262.34(d)(5)(ii) - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 262.34(d)(5)(ii)
Violation Description:	Failure to post the following information next to the telephone: (A) The name and telephone number of the emergency coordinator; (B) Location of fire extinguishers and spill control material, and, if present, fire alarm; and (C) The telephone number of the fire

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

	department, unless the facility has a direct alarm.
Violation Notes:	Returned to compliance on 04/28/2017.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	06-11-2014
Citation:	HSC 6.7 Multiple Sections - California Health and Safety Code, Chapter 6.7, Section(s) Multiple Sections
Violation Description:	UST Program - Operations/Maintenance - General
Violation Notes:	Returned to compliance on 07/08/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	05-30-2018
Citation:	23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description:	Failure of the leak detection equipment to have an audible and visual alarm as required.
Violation Notes:	Returned to compliance on 05/30/2018. Diesel stp sensor failed.
Violation Division:	Riverside County Department of Env Health
Violation Program:	UST
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	06-11-2014
Citation:	19 CCR 4 2729.2(a)(3) - California Code of Regulations, Title 19, Chapter 4, Section(s) 2729.2(a)(3)
Violation Description:	Failure to complete and/or submit an annotated site map if required by CUPA.
Violation Notes:	Returned to compliance on 07/08/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	20450
Site Name:	Shell Oil Products US
Violation Date:	06-05-2017
Citation:	22 CCR 12 66262.34(d) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(d)
Violation Description:	Failure to send hazardous waste offsite for treatment, storage, or disposal within 180 days (or 270 days if waste is transported over 200 miles) for a generator who generates less than 1000 kilogram per month if all of the following conditions are met: (1) The quantity of hazardous waste accumulated onsite never exceeds 6,000 kilograms. (2) The generator complies with the requirements of 40 Code of Federal Regulations section 262.34(d), (e) and (f). (3) The generator does not hold acutely hazardous waste or extremely hazardous waste in an amount greater than one kilogram for more than 90 days.
Violation Notes:	Returned to compliance on 07/12/2017.
Violation Division:	Riverside County Department of Env Health

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Violation Program: HW
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 12-20-2016
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.
Violation Notes: Returned to compliance on 04/28/2017.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 05-30-2018
Citation: 23 CCR 16 2636(f)(1) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(1)
Violation Description: Failure of the leak detection equipment to have an audible and visual alarm as required.
Violation Notes: Returned to compliance on 05/30/2018.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 06-11-2014
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description: Business Plan Program - Administration/Documentation - General
Violation Notes: Returned to compliance on 09/11/2014. [LOCAL ORDINANCE VIOLATION 104A] NFPA 704 sign(s) have been posted appropriately.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 05-30-2018
Citation: 23 CCR 16 2632(c)(2)(A)&(B) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(c)(2)(A)&(B)
Violation Description: Failure to continuously monitor the interstitial space of a double-walled tank with an audible and visual alarm system.
Violation Notes: Returned to compliance on 05/30/2018. 87 fill sensor.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 06-07-2016
Citation: HSC 6.7 25292.1(a) - California Health and Safety Code, Chapter 6.7, Section(s) 25292.1(a)

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Violation Description: Failure to operate the UST system to prevent unauthorized releases including leaks, spills, and/or overfills.
Violation Notes: Returned to compliance on 08/02/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 12-20-2016
Citation: 40 CFR 1 265.174 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.174
Violation Description: Failure to inspect hazardous waste storage areas at least weekly and look for leaking and deteriorating containers.
Violation Notes: Returned to compliance on 04/28/2017.
Violation Division: Riverside County Department of Env Health
Violation Program: HW
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 06-07-2016
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Description: Failure of the overfill prevention system to meet one of the following requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.
Violation Notes: Returned to compliance on 08/02/2016.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Violation Date: 07-10-2019
Citation: HSC 6.7 25290.1(d) - California Health and Safety Code, Chapter 6.7, Section(s) 25290.1(d)
Violation Description: Failure of a UST system installed on or after July 1, 2004 to be designed and constructed with a monitoring system capable of detecting the entry of the liquid or vapor-phase of the hazardous substance stored in the primary containment into the secondary containment and capable of detecting water intrusion into the secondary containment.
Violation Notes: Returned to compliance on 07/16/2019.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Site ID: 20450

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Site Name: Shell Oil Products US
Violation Date: 06-03-2015
Citation: 23 CCR 16 2715(c)(2) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(c)(2)
Violation Description: Failure to comply with one or more of the following: maintain the spill bucket in good condition, containment free of debris/liquid, and/or to remove the contents of the spill bucket when a release/leak/spill was observed.
Violation Notes: Returned to compliance on 07/08/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: UST
Violation Source: CERS

Evaluation:
Eval General Type: Other/Unknown
Eval Date: 01-30-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 01-30-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 03-15-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-28-2019
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-28-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-28-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-28-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 05-30-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-03-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-05-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-05-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Eval Date: 06-05-2017
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-07-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-11-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Haz. Handler Insp.
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-11-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Haz. Waste Gen. Insp.
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-11-2014
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: UST Insp.
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-10-2019
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-12-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-12-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-12-2017
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-17-2013
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-17-2013
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-17-2013
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-20-2016
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: UST

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-30-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Haz. Waste Gen. Re-insp.
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-30-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: HMBEP Re-insp.
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-30-2014
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: UST Re-insp.
Eval Division: Riverside County Department of Env Health
Eval Program: UST
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-20-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-20-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Enforcement Action:
Site ID: 20450
Site Name: Shell Oil Products US
Site Address: 23805 CLINTON KEITH ROAD
Site City: WILDOMAR
Site Zip: 92595
Enf Action Date: 06-03-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Site Address: 23805 CLINTON KEITH ROAD
Site City: WILDOMAR
Site Zip: 92595
Enf Action Date: 06-11-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Site Address: 23805 CLINTON KEITH ROAD
Site City: WILDOMAR
Site Zip: 92595
Enf Action Date: 06-11-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HW
Enf Action Source: CERS

Site ID: 20450
Site Name: Shell Oil Products US
Site Address: 23805 CLINTON KEITH ROAD
Site City: WILDOMAR
Site Zip: 92595
Enf Action Date: 06-11-2014
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: UST
Enf Action Source: CERS

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: Paul Vidakovich-PCET
Entity Title: Not reported
Affiliation Address: 3720 OCEANIC WAY, SUITE 205
Affiliation City: Oceanside
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92056
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner
Entity Name: Equilon Enterprises LLC
Entity Title: Not reported

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Affiliation Address:	150 N Dairy Ashford
Affiliation City:	Houston
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	77079
Affiliation Phone:	(832) 337-6153
Affiliation Type Desc:	Parent Corporation
Entity Name:	KA MANAGEMENT, INC.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	UST Property Owner Name
Entity Name:	Equilon Enterprises, LLC
Entity Title:	Not reported
Affiliation Address:	150 N Dairy Ashford Rd
Affiliation City:	Houston
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	77079
Affiliation Phone:	(832) 337-6153
Affiliation Type Desc:	UST Tank Operator
Entity Name:	Shell Oil Products US
Entity Title:	Not reported
Affiliation Address:	150 N Dairy Asford Rd
Affiliation City:	Houston
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	77079
Affiliation Phone:	(832) 337-6153
Affiliation Type Desc:	Identification Signer
Entity Name:	Paul Vidakovich
Entity Title:	Consultant
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Operator
Entity Name:	Shell OilProducts, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(713) 539-9162

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Affiliation Type Desc:	UST Tank Owner
Entity Name:	EQUILON ENTERPRISES, LLC
Entity Title:	Not reported
Affiliation Address:	150 N Dairy Ashford
Affiliation City:	Houston
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	77079
Affiliation Phone:	(832) 337-6153

Affiliation Type Desc:	Property Owner
Entity Name:	Equilon Enterprises LLC
Entity Title:	Not reported
Affiliation Address:	150 N Dairy Ashford Rd
Affiliation City:	Houston
Affiliation State:	TX
Affiliation Country:	United States
Affiliation Zip:	77079
Affiliation Phone:	(832) 337-6153

Affiliation Type Desc:	UST Permit Applicant
Entity Name:	TONY CASAREZ
Entity Title:	DIRECTOR OF OPERATONS
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(858) 404-6084

Affiliation Type Desc:	CUPA District
Entity Name:	Riverside Cnty Env Health
Entity Title:	Not reported
Affiliation Address:	4065 County Circle Drive, Room 104
Affiliation City:	Riverside
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92503
Affiliation Phone:	(951) 358-5055

Affiliation Type Desc:	Document Preparer
Entity Name:	Paul Vidakovich
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	5820 OBERLIN DRIVE, STE 201
Affiliation City:	SAN DIEGO
Affiliation State:	CA
Affiliation Country:	Not reported

KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON (Continued) **S113123680**

Affiliation Zip: 92121
Affiliation Phone: Not reported

HWTS:
Name: KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON
Address: 23805 CLINTON KEITH RD
Address 2: Not reported
City,State,Zip: WILDOMAR, CA 92595
EPA ID: CAL000263268
Inactive Date: Not reported
Create Date: 12/06/2002
Last Act Date: 07/14/2020
Mailing Name: Not reported
Mailing Address: 5820 OBERLIN DR STE 201
Mailing Address 2: Not reported
Mailing City,State,Zip: SAN DIEGO, CA 921210000
Owner Name: KA MANAGEMENT INC
Owner Address: 5820 OBERLIN DR STE 201
Owner Address 2: Not reported
Owner City,State,Zip: SAN DIEGO, CA 921210000
Contact Name: TONY CASAREZ
Contact Address: 5820 OBERLIN DR STE 201
Contact Address 2: Not reported
City,State,Zip: SAN DIEGO, CA 92121

NAICS:
EPA ID: CAL000263268
Create Date: 2002-12-06 08:34:48.593
NAICS Code: 44719
NAICS Description: Other Gasoline Stations
Issued EPA ID Date: 2002-12-06 08:34:48.51300
Inactive Date: Not reported
Facility Name: KA MANAGEMENT INC DBA CLINTON KEITH CHEVRON
Facility Address: 23805 CLINTON KEITH RD
Facility Address 2: Not reported
Facility City: WILDOMAR
Facility County: Not reported
Facility State: CA
Facility Zip: 92595

C15 **SHELL OIL PRODUCTS US** **UST** **U004333129**
SSW **23805 CLINTON KEITH ROAD** **N/A**
< 1/8 **WILDOMAR, CA 92595**
0.101 mi.
532 ft. **Site 3 of 6 in cluster C**

Relative:
Lower

Actual:
1323 ft.

UST:
Name: SHELL OIL PRODUCTS US
Address: 23805 CLINTON KEITH ROAD
City,State,Zip: WILDOMAR, CA 92595
Facility ID: FA0022828
Permitting Agency: Riverside County Department of Environmental Health
Latitude: 33.59618
Longitude: -117.24345

C16
SSW
< 1/8
0.101 mi.
532 ft.

EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS
23805 CLINTON KEITH RD
WILDOMAR, CA 92595

Site 4 of 6 in cluster C

RCRA NonGen / NLR **1026492880**
CAL000457678

Relative:
Lower

Actual:
1323 ft.

RCRA NonGen / NLR:

Date Form Received by Agency:	2020-10-23 00:00:00.0
Handler Name:	EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS
Handler Address:	23805 CLINTON KEITH RD
Handler City,State,Zip:	WILDOMAR, CA 92595
EPA ID:	CAL000457678
Contact Name:	DIANA HENK
Contact Address:	20945 S WILMINGTON AVE
Contact City,State,Zip:	LONG BEACH, CA 90810
Contact Telephone:	832-337-1544
Contact Fax:	310-975-6845
Contact Email:	DIANA.HENK@SHELL.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	150 N DAIRY ASHFORD
Mailing City,State,Zip:	HOUSTON, TX 77079
Owner Name:	EQUILON ENTERPRISES LLC
Owner Type:	Other
Operator Name:	DIANA HENK
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported

EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS (Continued) **1026492880**

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2020-10-26 14:56:01.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	EQUILON ENTERPRISES LLC
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	150 N DAIRY ASHFORD
Owner/Operator City,State,Zip:	HOUSTON, TX 77079
Owner/Operator Telephone:	833-544-2447
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	DIANA HENK
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	20945 S WILMINGTON AVE
Owner/Operator City,State,Zip:	LONG BEACH, CA 90810
Owner/Operator Telephone:	832-337-1544
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS (Continued) **1026492880**

Historic Generators:
Receive Date: 2020-10-23 00:00:00.0
Handler Name: EQUILON ENTERPRISES LLC DBA SHELL OIL PRODUCTS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 447190
NAICS Description: OTHER GASOLINE STATIONS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C17 **K A MANGEMENT** **EDR Hist Auto** **1022171927**
SSW **23805 CLINTON KEITH RD** **N/A**
< 1/8 **WILDOMAR, CA 92595**
0.101 mi.
532 ft. **Site 5 of 6 in cluster C**

Relative: EDR Hist Auto
Lower

Actual: **1323 ft.**

Year:	Name:	Type:
2006	K A MANGEMENT	Gasoline Service Stations, NEC
2006	CLINTON KEITH CHEVRON	Gasoline Service Stations, NEC
2007	K A MANGEMENT	Gasoline Service Stations, NEC
2007	CLINTON KEITH CHEVRON	Gasoline Service Stations, NEC
2008	CLINTON KEITH CHEVRON	Gasoline Service Stations, NEC
2008	K A MANGEMENT	Gasoline Service Stations, NEC
2009	K A MANGEMENT	Gasoline Service Stations, NEC
2010	K A MANGEMENT	Gasoline Service Stations, NEC
2011	K A MANGEMENT	Gasoline Service Stations, NEC
2012	K A MANGEMENT	Gasoline Service Stations, NEC
2013	K A MANGEMENT	Gasoline Service Stations, NEC
2014	K A MANGEMENT	Gasoline Service Stations, NEC

C18 **CLINTON KEITH SHELL** **UST** **U004126537**
SSW **23805 CLINTON KEITH RD #1** **N/A**
< 1/8 **WILDOMAR, CA 92595**
0.101 mi.
532 ft. **Site 6 of 6 in cluster C**

Relative: **Lower**

Actual: **1323 ft.**

RIVERSIDE CO. UST:
Name: CLINTON KEITH SHELL
Address: 23805 CLINTON KEITH RD #1
City,State,Zip: WILDOMAR, CA 92595
Region: RIVERSIDE
Total Tanks: 4

UST:
Name: CLINTON KEITH CHEVRON
Address: 23805 CLINTON KEITH ROAD
City,State,Zip: WILDOMAR, CA 92595
Facility ID: FA0022828
Permitting Agency: Riverside County Department of Environme
Latitude: 33.59618
Longitude: -117.24345

B19 **ALBERTSON'S # 6735** **RCRA NonGen / NLR** **1024838178**
South **23893 CLINTON KEITH RD** **CAL000384634**
1/8-1/4 **WILDOMAR, CA 92595**
0.139 mi.
734 ft. **Site 6 of 7 in cluster B**

Relative: **Lower**

Actual: **1331 ft.**

RCRA NonGen / NLR:

Date Form Received by Agency:		2013-04-16 00:00:00.0
Handler Name:	ALBERTSON'S # 6735	
Handler Address:		23893 CLINTON KEITH RD
Handler City,State,Zip:		WILDOMAR, CA 92595
EPA ID:		CAL000384634
Contact Name:		JILL WASHBURN
Contact Address:		PO BOX 20, DEPT. 81014
Contact City,State,Zip:		BOISE, ID 83726
Contact Telephone:		208-395-3949
Contact Fax:		208-395-4508
Contact Email:		JILL.WASHBURN@ALBERTSONS.COM
Contact Title:		Not reported
EPA Region:		09
Land Type:		Not reported
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Handler Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		250 E PARKCENTER BLVD DEPT 81014
Mailing City,State,Zip:		BOISE, ID 83706-3940
Owner Name:		ALBERTSONS, LLC
Owner Type:		Other
Operator Name:		JILL WASHBURN
Operator Type:		Other
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No

ALBERTSON'S # 6735 (Continued) **1024838178**

Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2018-09-06 17:02:17.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	JILL WASHBURN

ALBERTSON'S # 6735 (Continued) **1024838178**

Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	PO BOX 20, DEPT. 81014
Owner/Operator City,State,Zip:	BOISE, ID 83726
Owner/Operator Telephone:	208-395-3949
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	ALBERTSONS, LLC
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	250 E PARKCENTER BLVD DEPT 81014
Owner/Operator City,State,Zip:	BOISE, ID 83706-3940
Owner/Operator Telephone:	208-395-4793
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	2013-04-16 00:00:00.0
Handler Name: ALBERTSON'S # 6735	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	45291
NAICS Description:	WAREHOUSE CLUBS AND SUPERCENTERS

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

B20 **ALBERTSON'S # 6735** **CERS HAZ WASTE** **S113468508**
South **23893 CLINTON KEITH RD** **HAZNET** **N/A**
1/8-1/4 **WILDOMAR, CA 92595** **CERS**
0.139 mi. **HWTS**
734 ft. **Site 7 of 7 in cluster B**

Relative:
Lower

Actual:
1331 ft.

CERS HAZ WASTE:
Name: ALBERTSONS #735
Address: 23893 CLINTON KEITH RD
City,State,Zip: WILDOMAR, CA 92595
Site ID: 384530
CERS ID: 10139193
CERS Description: Hazardous Waste Generator

HAZNET:
Name: ALBERTSON'S # 6735
Address: 23893 CLINTON KEITH RD
Address 2: Not reported
City,State,Zip: WILDOMAR, CA 837063940
Contact: JILL WASHBURN
Telephone: 2083953949
Mailing Name: Not reported
Mailing Address: 250 E PARKCENTER BLVD DEPT 81014

Year: 2019
Gepaid: CAL000384634
TSD EPA ID: NVT330010000
CA Waste Code: 141 - Off-specification, aged or surplus inorganics
Disposal Method: H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons: 0.00200

Year: 2019
Gepaid: CAL000384634
TSD EPA ID: NVT330010000
CA Waste Code: 791 - Liquids with pH <= 2
Disposal Method: H039 - Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons: 0.00100

Year: 2019
Gepaid: CAL000384634
TSD EPA ID: NVT330010000
CA Waste Code: 181 - Other inorganic solid waste
Disposal Method: H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons: 0.00250

Year: 2019
Gepaid: CAL000384634
TSD EPA ID: NVT330010000
CA Waste Code: 232 - Pesticides and other waste associated with pesticide production
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.00050

Year: 2019
Gepaid: CAL000384634
TSD EPA ID: NVT330010000

ALBERTSON'S # 6735 (Continued) **S113468508**

CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons: 0.04800

Year: 2019
Gepaid: CAL000384634
TSD EPA ID: NVT330010000
CA Waste Code: 512 - Other empty containers 30 gallons or more
Disposal Method: H132 - Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons: 0.00250

Year: 2019
Gepaid: CAL000384634
TSD EPA ID: NVT330010000
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.00150

Year: 2019
Gepaid: CAL000384634
TSD EPA ID: NVT330010000
CA Waste Code: 141 - Off-specification, aged or surplus inorganics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.00100

Year: 2019
Gepaid: CAL000384634
TSD EPA ID: NVT330010000
CA Waste Code: 311 - Pharmaceutical waste
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.00150

Year: 2019
Gepaid: CAL000384634
TSD EPA ID: NVT330010000
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.01000

Click this hyperlink while viewing on your computer to access
41 additional CA HAZNET: record(s) in the EDR Site Report.

Additional Info:
Year: 2017
Gen EPA ID: CAL000384634

Shipment Date: 20171215
Creation Date: 8/23/2018 18:30:16
Receipt Date: 20171222
Manifest ID: 011323966FLE

ALBERTSON'S # 6735 (Continued) **S113468508**

Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0035
Waste Quantity:	7
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20171215
Creation Date:	8/23/2018 18:30:16
Receipt Date:	20171222
Manifest ID:	011323966FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0025
Waste Quantity:	5
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20171215
Creation Date:	8/23/2018 18:30:16
Receipt Date:	20171222
Manifest ID:	011323966FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported

ALBERTSON'S # 6735 (Continued) **S113468508**

TSDF Alt Name:	Not reported
Waste Code Description:	311 - Pharmaceutical waste
RCRA Code:	P001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20171215
Creation Date:	8/23/2018 18:30:16
Receipt Date:	20171222
Manifest ID:	011323966FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	311 - Pharmaceutical waste
RCRA Code:	D010
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20171215
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	011323966FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.052
Waste Quantity:	104

ALBERTSON'S # 6735 (Continued) **S113468508**

Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20171215
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	011323966FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0835
Waste Quantity:	167
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170919
Creation Date:	7/5/2018 18:31:14
Receipt Date:	20170927
Manifest ID:	010207039FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	141 - Off-specification, aged, or surplus inorganics
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0015
Waste Quantity:	3
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

ALBERTSON'S # 6735 (Continued) **S113468508**

Shipment Date:	20170919
Creation Date:	7/5/2018 18:31:14
Receipt Date:	20170927
Manifest ID:	010207039FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.007
Waste Quantity:	14
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20170919
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	010207039FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.03
Waste Quantity:	60
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20170919
Creation Date:	7/5/2018 18:31:14
Receipt Date:	20170927
Manifest ID:	010207039FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	Not reported

ALBERTSON'S # 6735 (Continued) **S113468508**

Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0015
Waste Quantity:	3
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2016
Gen EPA ID:	CAL000384634
Shipment Date:	20150721
Creation Date:	9/25/2015 22:15:09
Receipt Date:	20150729
Manifest ID:	008539084FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.017
Waste Quantity:	34
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150721
Creation Date:	9/25/2015 22:15:09
Receipt Date:	20150729
Manifest ID:	008539084FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC

ALBERTSON'S # 6735 (Continued) **S113468508**

TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0065
Waste Quantity:	13
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150721
Creation Date:	9/25/2015 22:15:09
Receipt Date:	20150729
Manifest ID:	008539084FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	311 - Pharmaceutical waste
RCRA Code:	P001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150721
Creation Date:	9/25/2015 22:15:09
Receipt Date:	20150729
Manifest ID:	008539084FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	141 - Off-specification, aged, or surplus inorganics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.085

ALBERTSON'S # 6735 (Continued) **S113468508**

Waste Quantity:	170
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150427
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	141 - Off-specification, aged, or surplus inorganics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0435
Waste Quantity:	87
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150427
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	311 - Pharmaceutical waste
RCRA Code:	D010
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

ALBERTSON'S # 6735 (Continued) **S113468508**

Shipment Date:	20150427
Creation Date:	8/21/2015 22:15:28
Receipt Date:	20150505
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20150427
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	141 - Off-specification, aged, or surplus inorganics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.09
Waste Quantity:	180
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20150427
Creation Date:	8/21/2015 22:15:28
Receipt Date:	20150505
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880

ALBERTSON'S # 6735 (Continued) **S113468508**

Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0055
Waste Quantity:	11
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150427
Creation Date:	8/21/2015 22:15:28
Receipt Date:	20150505
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	131 - Aqueous solution (2 < pH < 12.5) containing reactive anions (azide, bromate, chlorate, cyanide, fluoride, hypochlorite, nitrite, perchlorate, and sulfide anions
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2013
Gen EPA ID:	CAL000384634
Shipment Date:	20131118
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006335147FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC

ALBERTSON'S # 6735 (Continued) **S113468508**

TSDF EPA ID:	INR000110197
Trans Name:	STERICYCLE INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	- Not reported
RCRA Code:	Not reported
Meth Code:	- Not reported
Quantity Tons:	0.0015
Waste Quantity:	3
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131118
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006335147FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	INR000110197
Trans Name:	STERICYCLE INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	311 - Pharmaceutical waste
RCRA Code:	D010
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131118
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006335147FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	INR000110197
Trans Name:	STERICYCLE INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)

ALBERTSON'S # 6735 (Continued) **S113468508**

Quantity Tons:	0.0615
Waste Quantity:	123
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131118
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006335147FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	INR000110197
Trans Name:	STERICYCLE INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0215
Waste Quantity:	43
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131118
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006335147FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	INR000110197
Trans Name:	STERICYCLE INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	311 - Pharmaceutical waste
RCRA Code:	P075
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	P001
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported

ALBERTSON'S # 6735 (Continued) **S113468508**

Additional Code 5:	Not reported
Shipment Date:	20131118
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006335147FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	INR000110197
Trans Name:	STERICYCLE INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	141 - Off-specification, aged, or surplus inorganics
RCRA Code:	Not reported
Meth Code:	- Not reported
Quantity Tons:	0.036
Waste Quantity:	72
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131118
Creation Date:	4/15/2014 22:15:05
Receipt Date:	20131206
Manifest ID:	006335147FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	INR000110197
Trans Name:	STERICYCLE INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0035
Waste Quantity:	7
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131118
Creation Date:	4/15/2014 22:15:05
Receipt Date:	20131206
Manifest ID:	006335147FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC

ALBERTSON'S # 6735 (Continued) **S113468508**

Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	INR000110197
Trans Name:	STERICYCLE INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0035
Waste Quantity:	7
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131118
Creation Date:	4/15/2014 22:15:05
Receipt Date:	20131206
Manifest ID:	006335147FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	INR000110197
Trans Name:	STERICYCLE INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	131 - Aqueous solution (2 < pH < 12.5) containing reactive anions (azide, bromate, chlorate, cyanide, fluoride, hypochlorite, nitrite, perchlorate, and sulfide anions
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0065
Waste Quantity:	13
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131118
Creation Date:	4/15/2014 22:15:05
Receipt Date:	20131206
Manifest ID:	006335147FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT INC
TSDF EPA ID:	INR000110197
Trans Name:	STERICYCLE INC
TSDF Alt EPA ID:	Not reported

ALBERTSON'S # 6735 (Continued) **S113468508**

TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0025
Waste Quantity:	5
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2014
Gen EPA ID:	CAL000384634
Shipment Date:	20141028
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	007309351FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000216770
Trans 2 Name:	CATRANS
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	141 - Off-specification, aged, or surplus inorganics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.1465
Waste Quantity:	293
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141028
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	007309351FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000216770
Trans 2 Name:	CATRANS
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001

ALBERTSON'S # 6735 (Continued) **S113468508**

Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0025
Waste Quantity:	5
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141028
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	007309351FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000216770
Trans 2 Name:	CATRANS
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	131 - Aqueous solution (2 < pH < 12.5) containing reactive anions (azide, bromate, chlorate, cyanide, fluoride, hypochlorite, nitrite, perchlorate, and sulfide anions
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.001
Waste Quantity:	2
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141028
Creation Date:	1/14/2015 22:14:51
Receipt Date:	20141031
Manifest ID:	007309351FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000216770
Trans 2 Name:	CATRANS
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.01
Waste Quantity:	20
Quantity Unit:	P

ALBERTSON'S # 6735 (Continued) **S113468508**

Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141028
Creation Date:	1/14/2015 22:14:51
Receipt Date:	20141031
Manifest ID:	007309351FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000216770
Trans 2 Name:	CATRANS
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	311 - Pharmaceutical waste
RCRA Code:	P001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141028
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	007309351FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000216770
Trans 2 Name:	CATRANS
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	- Not reported
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141028

ALBERTSON'S # 6735 (Continued) **S113468508**

Creation Date:	1/14/2015 22:14:51
Receipt Date:	20141031
Manifest ID:	007309351FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000216770
Trans 2 Name:	CATRANS
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0095
Waste Quantity:	19
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141028
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	007309351FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000216770
Trans 2 Name:	CATRANS
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	- Not reported
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141028
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	007309351FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000216770
Trans 2 Name:	CATRANS

ALBERTSON'S # 6735 (Continued) **S113468508**

TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	- Not reported
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0015
Waste Quantity:	3
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141028
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	007309351FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000216770
Trans 2 Name:	CATRANS
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	141 - Off-specification, aged, or surplus inorganics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0575
Waste Quantity:	115
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2015
Gen EPA ID:	CAL000384634
Shipment Date:	20150721
Creation Date:	9/25/2015 22:15:09
Receipt Date:	20150729
Manifest ID:	008539084FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported

ALBERTSON'S # 6735 (Continued) **S113468508**

TSDF Alt Name:	Not reported
Waste Code Description:	311 - Pharmaceutical waste
RCRA Code:	P001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150721
Creation Date:	9/25/2015 22:15:09
Receipt Date:	20150729
Manifest ID:	008539084FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.017
Waste Quantity:	34
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150721
Creation Date:	9/25/2015 22:15:09
Receipt Date:	20150729
Manifest ID:	008539084FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0065
Waste Quantity:	13

ALBERTSON'S # 6735 (Continued) **S113468508**

Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150721
Creation Date:	9/25/2015 22:15:09
Receipt Date:	20150729
Manifest ID:	008539084FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	141 - Off-specification, aged, or surplus inorganics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.085
Waste Quantity:	170
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150427
Creation Date:	8/21/2015 22:15:28
Receipt Date:	20150505
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

ALBERTSON'S # 6735 (Continued) **S113468508**

Shipment Date:	20150427
Creation Date:	8/21/2015 22:15:28
Receipt Date:	20150505
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0055
Waste Quantity:	11
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20150427
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	141 - Off-specification, aged, or surplus inorganics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.09
Waste Quantity:	180
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20150427
Creation Date:	8/21/2015 22:15:28
Receipt Date:	20150505
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880

ALBERTSON'S # 6735 (Continued) **S113468508**

Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150427
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	311 - Pharmaceutical waste
RCRA Code:	D010
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150427
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	006344875FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	181 - Other inorganic solid waste Organics
RCRA Code:	Not reported

ALBERTSON'S # 6735 (Continued) **S113468508**

Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0005
Waste Quantity:	1
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2010
Gen EPA ID:	CAL000384634
Shipment Date:	20100422
Creation Date:	12/16/2010 18:30:53
Receipt Date:	20100507
Manifest ID:	006502706JJK
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY SOLUTIONS INC
Trans 2 EPA ID:	OKD981588791
Trans 2 Name:	TRIAD TRANSPORT
TSDF EPA ID:	OHD083377010
Trans Name:	ENVIRONMENTAL ENTERPRISES INC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D001
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.002
Waste Quantity:	4
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

CERS:

Name:	ALBERTSONS #735
Address:	23893 CLINTON KEITH RD
City,State,Zip:	WILDOMAR, CA 92595
Site ID:	384530
CERS ID:	10139193
CERS Description:	Chemical Storage Facilities

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	07-01-2016
Violations Found:	No
Eval Type:	Routine done by local agency
Eval Notes:	Not reported
Eval Division:	Riverside County Department of Env Health
Eval Program:	HMRRP
Eval Source:	CERS

ALBERTSON'S # 6735 (Continued) **S113468508**

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-01-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-15-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 07-15-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 384530
Facility Name: Albertsons #735
Env Int Type Code: HMBP
Program ID: 10139193
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 33.595790
Longitude: -117.241920

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: Jill Washburn
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Operator
Entity Name: Albertsons #735
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported

ALBERTSON'S # 6735 (Continued) **S113468508**

Affiliation Phone:	(951) 600-4607
Affiliation Type Desc:	Environmental Contact
Entity Name:	Jill Washburn
Entity Title:	Not reported
Affiliation Address:	PO Box 20, Dept. 9938819
Affiliation City:	Boise
Affiliation State:	ID
Affiliation Country:	Not reported
Affiliation Zip:	83726
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	PO Box 20, Dept. 9938819
Affiliation City:	Boise
Affiliation State:	ID
Affiliation Country:	Not reported
Affiliation Zip:	83726
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	Jill Washburn
Entity Title:	Environmental Coordinator
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	Albertsons
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	CUPA District
Entity Name:	Riverside Cnty Env Health
Entity Title:	Not reported
Affiliation Address:	4065 County Circle Drive, Room 104
Affiliation City:	Riverside
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92503
Affiliation Phone:	(951) 358-5055
Affiliation Type Desc:	Legal Owner
Entity Name:	Albertsons, LLC
Entity Title:	Not reported
Affiliation Address:	PO Box 20, Dept. 9938819
Affiliation City:	Boise

ALBERTSON'S # 6735 (Continued) **S113468508**

Affiliation State: ID
Affiliation Country: United States
Affiliation Zip: 83726
Affiliation Phone: (208) 395-3949

HWTS:
Name: ALBERTSON'S # 6735
Address: 23893 CLINTON KEITH RD
Address 2: Not reported
City,State,Zip: WILDOMAR, CA 92595
EPA ID: CAL000384634
Inactive Date: Not reported
Create Date: 04/16/2013
Last Act Date: 09/29/2020
Mailing Name: Not reported
Mailing Address: 250 E PARKCENTER BLVD DEPT 9938819
Mailing Address 2: Not reported
Mailing City,State,Zip: BOISE, ID 837063940
Owner Name: ALBERTSONS, LLC
Owner Address: 250 E PARKCENTER BLVD DEPT 9938819
Owner Address 2: Not reported
Owner City,State,Zip: BOISE, ID 837063940
Contact Name: JILL WASHBURN
Contact Address: PO BOX 20, DEPT. 9938819
Contact Address 2: Not reported
City,State,Zip: BOISE, ID 83726

NAICS:
EPA ID: CAL000384634
Create Date: 2013-04-16 14:15:31.033
NAICS Code: 45291
NAICS Description: Warehouse Clubs and Superstores
Issued EPA ID Date: 2013-04-16 14:15:31.03000
Inactive Date: Not reported
Facility Name: ALBERTSON'S # 6735
Facility Address: 23893 CLINTON KEITH RD
Facility Address 2: Not reported
Facility City: WILDOMAR
Facility County: Not reported
Facility State: CA
Facility Zip: 92595

21
WSW
1/8-1/4
0.235 mi.
1240 ft.

BEAR CREEK DENTAL GROUP AND ORTHODONTICS
36068 HIDDEN SPRINGS RD STE H
WILDOMAR, CA 92595

RCRA NonGen / NLR **1024855084**
CAL000417246

Relative:
Lower

Actual:
1321 ft.

RCRA NonGen / NLR:
Date Form Received by Agency: 2016-05-18 00:00:00.0
Handler Name: BEAR CREEK DENTAL GROUP AND ORTHODONTICS
Handler Address: 36068 HIDDEN SPRINGS RD STE H
Handler City,State,Zip: WILDOMAR, CA 92595
EPA ID: CAL000417246
Contact Name: NICHOLE BALL
Contact Address: 36068 HIDDEN SPRINGS RD STE H

BEAR CREEK DENTAL GROUP AND ORTHODONTICS (Continued) **1024855084**

Contact City,State,Zip:	WILDOMAR, CA 92595
Contact Telephone:	951-678-0790
Contact Fax:	951-678-0796
Contact Email:	RISK@PACDEN.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	17000 RED HILL AVE
Mailing City,State,Zip:	IRVINE, CA 92614
Owner Name:	DO-YABUT AND WATANABE DENTAL CORPOR
Owner Type:	Other
Operator Name:	NICHOLE BALL
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No

BEAR CREEK DENTAL GROUP AND ORTHODONTICS (Continued) **1024855084**

Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	2018-09-06 17:07:47.0
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	NICHOLE BALL
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	36068 HIDDEN SPRINGS RD STE H
Owner/Operator City,State,Zip:	WILDOMAR, CA 92595
Owner/Operator Telephone:	951-678-0790
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	DO-YABUT AND WATANABE DENTAL CORPOR
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	36068 HIDDEN SPRINGS RD STE H
Owner/Operator City,State,Zip:	WILDOMAR, CA 92595
Owner/Operator Telephone:	951-678-0790
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	2016-05-18 00:00:00.0
Handler Name:	BEAR CREEK DENTAL GROUP AND ORTHODONTICS
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes

BEAR CREEK DENTAL GROUP AND ORTHODONTICS (Continued) **1024855084**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 62121
NAICS Description: OFFICES OF DENTISTS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

D22 **INLAND VALLEY REGIONAL MEDICAL CENTER** **LUST** **U003713800**
SSE **36485 INLAND VALLEY DR** **UST** **N/A**
1/4-1/2 **WILDOMAR, CA 92595** **SWEEPS UST**
0.464 mi.
2450 ft. **Site 1 of 2 in cluster D**

Relative: **Lower**
Actual: **1342 ft.**

LUST REG 8:

Name:	INLAND VALLEY REGIONAL MEDICAL CENTER
Address:	36485 INLAND VALLEY DR
City:	WILDOMAR
Region:	8
County:	Riverside
Regional Board:	Santa Ana Region
Facility Status:	Leak being confirmed
Case Number:	083303712T
Local Case Num:	99-15433
Case Type:	Soil only
Substance:	Hydrocarbons
Qty Leaked:	Not reported
Abate Method:	Not reported
Cross Street:	Not reported
Enf Type:	Not reported
Funding:	Not reported
How Discovered:	Not reported
How Stopped:	Not reported
Leak Cause:	Not reported
Leak Source:	Not reported
Global ID:	T0606599143
How Stopped Date:	Not reported
Enter Date:	6/14/2000
Date Confirmation of Leak Began:	4/7/2000
Date Preliminary Assessment Began:	Not reported
Discover Date:	Not reported
Enforcement Date:	Not reported
Close Date:	Not reported
Date Prelim Assessment Workplan Submitted:	Not reported
Date Pollution Characterization Began:	Not reported
Date Remediation Plan Submitted:	Not reported
Date Remedial Action Underway:	Not reported
Date Post Remedial Action Monitoring:	Not reported
Enter Date:	6/14/2000
GW Qualifies:	Not reported

INLAND VALLEY REGIONAL MEDICAL CENTER (Continued) **U003713800**

Soil Qualifies:	Not reported
Operator:	Not reported
Facility Contact:	Not reported
Interim:	Not reported
Oversite Program:	LUST
Latitude:	33.591114
Longitude:	-117.236964
MTBE Date:	Not reported
Max MTBE GW:	Not reported
MTBE Concentration:	0
Max MTBE Soil:	Not reported
MTBE Fuel:	0
MTBE Tested:	Not Required to be Tested.
MTBE Class:	*
Staff:	RS
Staff Initials:	Not reported
Lead Agency:	Local Agency
Local Agency:	33000L
Hydr Basin #:	TEMECULA VALLEY (9-5
Beneficial:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Work Suspended:	No

Summary: Not reported

UST:

Name:	INLAND VALLEY REGIONAL MEDICAL CENTER
Address:	36485 INLAND VALLEY DR
City,State,Zip:	WILDOMAR, CA 92595
Facility ID:	411
Permitting Agency:	RIVERSIDE COUNTY
Latitude:	33.592809
Longitude:	-117.2361461

SWEEPS UST:

Name:	INLAND VALLEY REGIONAL MEDICAL CENTER
Address:	36485 INLAND VALLEY DR
City:	WILDOMAR
Status:	Active
Comp Number:	20290
Number:	1
Board Of Equalization:	44-018075
Referral Date:	11-03-92
Action Date:	11-03-92
Created Date:	02-27-89
Owner Tank Id:	001182
SWRCB Tank Id:	33-000-020290-000001
Tank Status:	A
Capacity:	20000
Active Date:	11-03-92
Tank Use:	M.V. FUEL
STG:	P
Content:	DIESEL
Number Of Tanks:	1

D23 **INLAND VALLEY REGIONAL MEDICAL CTR** **LUST** **S104228126**
SSE **36485 INLAND VALLEY DR** **CERS HAZ WASTE** **N/A**
1/4-1/2 **WILDOMAR, CA 92595** **CERS TANKS**
0.464 mi. **Cortese**
2450 ft. **Site 2 of 2 in cluster D** **EMI**
CERS

Relative:
Lower

Actual:
1342 ft.

RIVERSIDE CO. LUST:

Name:	INLAND VALLEY REG MEDICAL CENTER
Address:	36485 INLAND VALLEY DR
City,State,Zip:	WILDOMAR, CA
Region:	RIVERSIDE
Facility ID:	9915433
Employee:	Winters
Site Closed:	Referred to Water Board
Case Type:	Drinking Water Aquifer affected
Facility Status:	0
Casetype Decode:	An Aquifer used for Drinking Water supply has been contaminated.
Fstatus Decode:	Not reported

LUST:

Name:	INLAND VALLEY REGIONAL MED CTR
Address:	36485 INLAND VALLEY DR
City,State,Zip:	WILDOMAR, CA 92595
Lead Agency:	SAN DIEGO RWQCB (REGION 9)
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0606599184
Global Id:	T0606599184
Latitude:	33.591114
Longitude:	-117.236964
Status:	Completed - Case Closed
Status Date:	10/13/2006
Case Worker:	Not reported
RB Case Number:	9UT3960
Local Agency:	RIVERSIDE COUNTY LOP
File Location:	Regional Board
Local Case Number:	9915433
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Diesel, Other Solvent or Non-Petroleum Hydrocarbon
Site History:	Not reported

LUST:

Global Id:	T0606599184
Contact Type:	Local Agency Caseworker
Contact Name:	Riverside County LOP
Organization Name:	RIVERSIDE COUNTY LOP
Address:	3880 LEMON ST SUITE 200
City:	RIVERSIDE
Email:	Not reported
Phone Number:	9519558980

LUST:

Global Id:	T0606599184
Action Type:	ENFORCEMENT
Date:	08/31/2004
Action:	Technical Correspondence / Assistance / Other
Global Id:	T0606599184
Action Type:	ENFORCEMENT

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Date: 01/10/2006
Action: Site Visit / Inspection / Sampling

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 10/13/2006
Action: Closure/No Further Action Letter

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 03/03/2006
Action: Staff Letter - #R9-2006-0030

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 03/28/2006
Action: * Verbal Communication

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 04/04/2006
Action: Verbal Communication

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 06/21/2006
Action: Verbal Communication

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 10/20/2005
Action: Staff Letter

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 10/23/2006
Action: Technical Correspondence / Assistance / Other

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 10/12/2006
Action: File review - #RCDEH Upload Site File 4/6/2011

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 08/23/2006
Action: Notification - Public Notice of Case Closure

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 01/10/2006
Action: Site Visit / Inspection / Sampling

Global Id: T0606599184
Action Type: Other
Date: 07/20/1999
Action: Leak Discovery

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Global Id: T0606599184
Action Type: Other
Date: 07/20/1999
Action: Leak Stopped

Global Id: T0606599184
Action Type: Other
Date: 08/03/1999
Action: Leak Reported

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 10/24/2005
Action: * Verbal Communication

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 10/05/2006
Action: Verbal Communication

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 05/16/2006
Action: Verbal Communication

Global Id: T0606599184
Action Type: ENFORCEMENT
Date: 02/21/2006
Action: * Verbal Communication

LUST:
Global Id: T0606599184
Status: Open - Case Begin Date
Status Date: 07/20/1999

Global Id: T0606599184
Status: Open - Site Assessment
Status Date: 08/03/1999

Global Id: T0606599184
Status: Open - Site Assessment
Status Date: 04/07/2000

Global Id: T0606599184
Status: Completed - Case Closed
Status Date: 10/13/2006

LUST REG 9:
Region: 9
Status: Preliminary site assessment workplan submitted
Case Number: 9UT3960
Local Case: 99-15433
Substance: Diesel
Qty Leaked: Not reported
Abate Method: Not reported

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Local Agency: Riverside
How Found: Other Means
How Stopped: Repair Piping
Source: Piping
Cause: Unknown
Lead Agency: Local Agency
Case Type: Soil only
Date Found: 07/20/1999
Date Stopped: 07/20/1999
Confirm Date: / /
Submit Workplan: 8/3/99
Prelim Assess: / /
Desc Pollution: Not reported
Remed Plan: / /
Remed Action: Not reported
Began Monitor: Not reported
Release Date: 08/03/1999
Enforce Date: Not reported
Closed Date: Not reported
Enforce Type: Not reported
Pilot Program: LOP
Basin Number: 902.31
GW Depth: Not reported
Beneficial Use: MUNBU
NPDES Number: Not reported
Priority: Medium priority
File Dispn: Not reported
Interim Remedial Actions: Not reported
Cleanup and Abatement order Number: Not reported
Waste Discharge Requirement Number: Not reported

CERS HAZ WASTE:
Name: INLAND VALLEY REGIONAL MEDICAL CTR
Address: 36485 INLAND VALLEY DR
City,State,Zip: WILDOMAR, CA 92595
Site ID: 124363
CERS ID: 10317190
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: INLAND VALLEY REGIONAL MEDICAL CTR
Address: 36485 INLAND VALLEY DR
City,State,Zip: WILDOMAR, CA 92595
Site ID: 124363
CERS ID: 10317190
CERS Description: Aboveground Petroleum Storage

CORTESE:
Name: INLAND VALLEY REGIONAL MED CTR
Address: 36485 INLAND VALLEY DR
City,State,Zip: WILDOMAR, CA 92595
Region: CORTESE
Envirostor Id: Not reported
Global ID: T0606599184
Site/Facility Type: LUST CLEANUP SITE
Cleanup Status: COMPLETED - CASE CLOSED

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	active
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported
File Name:	Active Open

EMI:

Name:	INLAND VALLEY REGIONAL MEDICAL
Address:	36485 INLAND VALLEY DR
City,State,Zip:	WILDOMAR, CA 92595
Year:	1990
County Code:	33
Air Basin:	SC
Facility ID:	54732
Air District Name:	SC
SIC Code:	8062
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	1
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

CERS:

Name:	INLAND VALLEY REGIONAL MED CTR
Address:	36485 INLAND VALLEY DR
City,State,Zip:	WILDOMAR, CA 92595
Site ID:	230688
CERS ID:	T0606599184
CERS Description:	Leaking Underground Storage Tank Cleanup Site

Affiliation:

Affiliation Type Desc:	Local Agency Caseworker
Entity Name:	Riverside County LOP - RIVERSIDE COUNTY LOP
Entity Title:	Not reported
Affiliation Address:	3880 LEMON ST SUITE 200
Affiliation City:	RIVERSIDE
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	9519558980

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Name:	INLAND VALLEY REGIONAL MEDICAL CTR
Address:	36485 INLAND VALLEY DR
City,State,Zip:	WILDOMAR, CA 92595
Site ID:	124363
CERS ID:	10317190
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	124363
Site Name:	Inland Valley Regional Medical Ctr
Violation Date:	06-21-2018
Citation:	Un-Specified
Violation Description:	Business Plan Program - Operations/Maintenance - General Local Ordinance
Violation Notes:	Returned to compliance on 08/14/2018.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS

Site ID:	124363
Site Name:	Inland Valley Regional Medical Ctr
Violation Date:	04-15-2015
Citation:	HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description:	Failure to discuss conformance with SPCC requirements within the SPCC plan.
Violation Notes:	Returned to compliance on 07/10/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	APSA
Violation Source:	CERS

Site ID:	124363
Site Name:	Inland Valley Regional Medical Ctr
Violation Date:	04-15-2015
Citation:	22 CCR 12 66262.34(f) - California Code of Regulations, Title 22, Chapter 12, Section(s) 66262.34(f)
Violation Description:	Failure to properly label hazardous waste accumulation containers with the following requirements: "Hazardous Waste", name and address of the generator, physical and chemical characteristics of the Hazardous Waste, and starting accumulation date.
Violation Notes:	Returned to compliance on 07/10/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS

Site ID:	124363
Site Name:	Inland Valley Regional Medical Ctr
Violation Date:	04-15-2015
Citation:	40 CFR 1 265.173 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.173
Violation Description:	Failure to properly close hazardous waste containers when not in active use.
Violation Notes:	Returned to compliance on 07/10/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS

Site ID:	124363

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Site Name:	Inland Valley Regional Medical Ctr
Violation Date:	07-05-2017
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.
Violation Notes:	Returned to compliance on 07/11/2017.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	124363
Site Name:	Inland Valley Regional Medical Ctr
Violation Date:	04-15-2015
Citation:	HSC 6.67 25270.4.5(a) - California Health and Safety Code, Chapter 6.67, Section(s) 25270.4.5(a)
Violation Description:	Failure to prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan .
Violation Notes:	Returned to compliance on 07/10/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	APSA
Violation Source:	CERS
Site ID:	124363
Site Name:	Inland Valley Regional Medical Ctr
Violation Date:	04-15-2015
Citation:	40 CFR 1 265.31 - U.S. Code of Federal Regulations, Title 40, Chapter 1, Section(s) 265.31
Violation Description:	Failure to maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, or surface water which could threaten human health or the environment..
Violation Notes:	Returned to compliance on 07/10/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HW
Violation Source:	CERS
Site ID:	124363
Site Name:	Inland Valley Regional Medical Ctr
Violation Date:	04-15-2015
Citation:	HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description:	Failure to complete and electronically submit a site map with all required content.
Violation Notes:	Returned to compliance on 07/10/2015.
Violation Division:	Riverside County Department of Env Health
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	124363
Site Name:	Inland Valley Regional Medical Ctr
Violation Date:	04-15-2015
Citation:	HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Description:	Business Plan Program - Operations/Maintenance - General

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Violation Notes: Returned to compliance on 07/10/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Site ID: 124363
Site Name: Inland Valley Regional Medical Ctr
Violation Date: 04-15-2015
Citation: HSC 6.95 25508(a)(1) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(a)(1)
Violation Description: Failure to complete and electronically submit hazardous material inventory information for all reportable hazardous materials on site at or above reportable quantities.
Violation Notes: Returned to compliance on 07/10/2015.
Violation Division: Riverside County Department of Env Health
Violation Program: HMRRP
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-15-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-15-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-15-2015
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 04-20-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-04-2014

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-04-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-21-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-21-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 06-21-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-05-2017
Violations Found: Yes
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-10-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Eval Division: Riverside County Department of Env Health
Eval Program: APSA
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-10-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Other/Unknown
Eval Date: 07-10-2015
Violations Found: No
Eval Type: Other, not routine, done by local agency
Eval Notes: Not reported
Eval Division: Riverside County Department of Env Health
Eval Program: HW
Eval Source: CERS

Enforcement Action:
Site ID: 124363
Site Name: Inland Valley Regional Medical Ctr
Site Address: 36485 INLAND VALLEY DR
Site City: WILDOMAR
Site Zip: 92595
Enf Action Date: 04-15-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: APSA
Enf Action Source: CERS

Site ID: 124363
Site Name: Inland Valley Regional Medical Ctr
Site Address: 36485 INLAND VALLEY DR
Site City: WILDOMAR
Site Zip: 92595
Enf Action Date: 04-15-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HMRRP
Enf Action Source: CERS

Site ID: 124363
Site Name: Inland Valley Regional Medical Ctr
Site Address: 36485 INLAND VALLEY DR
Site City: WILDOMAR
Site Zip: 92595
Enf Action Date: 04-15-2015
Enf Action Type: Notice of Violation (Unified Program)
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Enf Action Notes: Not reported
Enf Action Division: Riverside County Department of Env Health
Enf Action Program: HW
Enf Action Source: CERS

Coordinates:
Site ID: 124363
Facility Name: Inland Valley Regional Medical Ctr
Env Int Type Code: HWG
Program ID: 10317190
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 33.591460
Longitude: -117.237880

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: Riverside Cnty Env Health
Entity Title: Not reported
Affiliation Address: 4065 County Circle Drive, Room 104
Affiliation City: Riverside
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92503
Affiliation Phone: (951) 358-5055

Affiliation Type Desc: Document Preparer
Entity Name: Manuel Arruda
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Environmental Contact
Entity Name: Bradley Neet
Entity Title: Not reported
Affiliation Address: 36485 Inland Valley Drive
Affiliation City: Wildomar
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92595
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer
Entity Name: Manuel Arruda
Entity Title: Manager
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	36485 Inland Valley Drive
Affiliation City:	Wildomar
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92595
Affiliation Phone:	Not reported

Affiliation Type Desc:	Legal Owner
Entity Name:	Inland Valley Regional Medical
Entity Title:	Not reported
Affiliation Address:	36485 Inland Valley Dr
Affiliation City:	Wildomar
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92595
Affiliation Phone:	(951) 677-1111

Affiliation Type Desc:	Parent Corporation
Entity Name:	Inland Valley Regional Medical Ctr
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Operator
Entity Name:	Attn: Inland Valley Regional Medical Center
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(951) 677-1111

Affiliation Type Desc:	Property Owner
Entity Name:	Inland Valley Regional Medical Center
Entity Title:	Not reported
Affiliation Address:	36485 Inland Valley Dr
Affiliation City:	Wildomar
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92595
Affiliation Phone:	(951) 696-6207

Name:	INLAND VALLEY REG MED CTR
Address:	36485 INLAND VALLEY DRIVE
City,State,Zip:	WILDOMAR, CA 92595
Site ID:	473673
CERS ID:	110041379950
CERS Description:	US EPA Air Emission Inventory System (EIS)

INLAND VALLEY REGIONAL MEDICAL CTR (Continued) **S104228126**

Affiliation:

Affiliation Type Desc:	Environmental Contact
Entity Name:	ILLYA ESPOSITO
Entity Title:	DIRECTOR, PLANT OPERATIONS
Affiliation Address:	25500 MEDICAL CENTER DR
Affiliation City:	MURRIETA
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Local Agency Caseworker
Entity Name:	RECEPTIONISTNA REGN 5 REDDING CTRL VLY R
Entity Title:	Not reported
Affiliation Address:	3880 LEMON ST SUITE 200
Affiliation City:	RIVERSIDE
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Affiliation Type Desc:	Regional Board Caseworker
Entity Name:	SUE J PEASE SAN DIEGO RWQCB REGN 9
Entity Title:	Not reported
Affiliation Address:	2375 NORTHSIDE DRIVENA SUITE 100
Affiliation City:	SANDIEGO
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

24
NW
1/2-1
0.842 mi.
4447 ft.

ELEMENTARY SCHOOL NO. 15 **ENVIROSTOR** **S118756724**
LA ESTRELLA ROAD/GEORGE PORRAS ROAD **SCH** **N/A**
WILDOMAR, CA 92595

Relative:
Higher

Actual:
1423 ft.

ENVIROSTOR:

Name:	ELEMENTARY SCHOOL NO. 15
Address:	LA ESTRELLA ROAD/GEORGE PORRAS ROAD
City,State,Zip:	WILDOMAR, CA 92595
Facility ID:	33650001
Status:	No Action Required
Status Date:	06/15/2001
Site Code:	404232
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	13
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Kamili Siglowide
Supervisor:	Charles Ridenour
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	67
Senate:	28

ELEMENTARY SCHOOL NO. 15 (Continued) **S118756724**

Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 33.60958
Longitude: -117.2514
APN: NONE SPECIFIED
Past Use: NONE
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: ELEMENTARY SCHOOL #15
Alias Type: Alternate Name
Alias Name: LAKE ELSINORE USD-ELEMENTARY # 15
Alias Type: Alternate Name
Alias Name: 404232
Alias Type: Project Code (Site Code)
Alias Name: 33650001
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 06/13/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 06/27/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 06/14/2001
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Name: ELEMENTARY SCHOOL NO. 15
Address: LA ESTRELLA ROAD/GEORGE PORRAS ROAD
City,State,Zip: WILDOMAR, CA 92595
Facility ID: 33650001
Site Type: School Investigation
Site Type Detail: School

ELEMENTARY SCHOOL NO. 15 (Continued) **S118756724**

Site Mgmt. Req.:	NONE SPECIFIED
Acres:	13
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Kamili Siglowide
Supervisor:	Charles Ridenour
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404232
Assembly:	67
Senate:	28
Special Program Status:	Not reported
Status:	No Action Required
Status Date:	06/15/2001
Restricted Use:	NO
Funding:	School District
Latitude:	33.60958
Longitude:	-117.2514
APN:	NONE SPECIFIED
Past Use:	NONE
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	ELEMENTARY SCHOOL #15
Alias Type:	Alternate Name
Alias Name:	LAKE ELSINORE USD-ELEMENTARY # 15
Alias Type:	Alternate Name
Alias Name:	404232
Alias Type:	Project Code (Site Code)
Alias Name:	33650001
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	06/13/2001
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	06/27/2001
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	06/14/2001
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported

ELEMENTARY SCHOOL NO. 15 (Continued) **S118756724**

Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

---

25 WNW 1/2-1 0.940 mi. 4963 ft. **DONALD GRAHAM MEDICA**
35450 FREDERICK STREET
WILDOMAR, CA 92595

ENVIROSTOR SCH HAZNET CERS HWTS **S118757190 N/A**

Relative: Lower

Actual: 1328 ft.

ENVIROSTOR:

Name:	DONALD GRAHAM MEDICAL THERAPY UNIT
Address:	35450 FREDERICK STREET
City,State,Zip:	WILDOMAR, CA 92595
Facility ID:	60000994
Status:	No Action Required
Status Date:	11/26/2008
Site Code:	404819
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	0.4
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	67
Senate:	28
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	33.60604
Longitude:	-117.2573
APN:	376-330-003, 376-330-015, 376-330-016, 376-330-017, 376330003, 376330015, 376330016, 376330017
Past Use:	NONE
Potential COC:	NONE SPECIFIED No Contaminants found
Confirmed COC:	No Contaminants found
Potential Description:	NMA
Alias Name:	Donald Graham Elementary School
Alias Type:	Alternate Name
Alias Name:	Lake Elsinore Unified School District
Alias Type:	Alternate Name
Alias Name:	376-330-003
Alias Type:	APN
Alias Name:	376-330-015
Alias Type:	APN
Alias Name:	376-330-016
Alias Type:	APN
Alias Name:	376-330-017
Alias Type:	APN
Alias Name:	376330003
Alias Type:	APN
Alias Name:	376330015
Alias Type:	APN
Alias Name:	376330016

DONALD GRAHAM MEDICA (Continued) **S118757190**

Alias Type:	APN
Alias Name:	376330017
Alias Type:	APN
Alias Name:	404819
Alias Type:	Project Code (Site Code)
Alias Name:	60000994
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	11/26/2008
Comments:	DTSC conducted a site visit on November 26, 2008.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	12/01/2008
Comments:	DTSC prepared project close out Cost Recovery Unit Memorandum.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	11/26/2008
Comments:	DTSC approved the Phase I report with a No Action determination.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

SCH:

Name:	DONALD GRAHAM MEDICAL THERAPY UNIT
Address:	35450 FREDERICK STREET
City,State,Zip:	WILDOMAR, CA 92595
Facility ID:	60000994
Site Type:	School Investigation
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	0.4
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	404819
Assembly:	67
Senate:	28

DONALD GRAHAM MEDICA (Continued) **S118757190**

Special Program Status:	Not reported
Status:	No Action Required
Status Date:	11/26/2008
Restricted Use:	NO
Funding:	School District
Latitude:	33.60604
Longitude:	-117.2573
APN:	376-330-003, 376-330-015, 376-330-016, 376-330-017, 376330003, 376330015, 376330016, 376330017
Past Use:	NONE
Potential COC:	NONE SPECIFIED, No Contaminants found
Confirmed COC:	No Contaminants found
Potential Description:	NMA
Alias Name:	Donald Graham Elementary School
Alias Type:	Alternate Name
Alias Name:	Lake Elsinore Unified School District
Alias Type:	Alternate Name
Alias Name:	376-330-003
Alias Type:	APN
Alias Name:	376-330-015
Alias Type:	APN
Alias Name:	376-330-016
Alias Type:	APN
Alias Name:	376-330-017
Alias Type:	APN
Alias Name:	376330003
Alias Type:	APN
Alias Name:	376330015
Alias Type:	APN
Alias Name:	376330016
Alias Type:	APN
Alias Name:	376330017
Alias Type:	APN
Alias Name:	404819
Alias Type:	Project Code (Site Code)
Alias Name:	60000994
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	11/26/2008
Comments:	DTSC conducted a site visit on November 26, 2008.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	12/01/2008
Comments:	DTSC prepared project close out Cost Recovery Unit Memorandum.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	11/26/2008
Comments:	DTSC approved the Phase I report with a No Action determination.
Future Area Name:	Not reported

DONALD GRAHAM MEDICA (Continued) **S118757190**

Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

HAZNET:
Name: DONALD GRAHAM ELEMENTARY SCHOOL
Address: 35450 FREDERICK ST
Address 2: Not reported
City,State,Zip: WILDOMAR, CA 92595
Contact: TINA KOONCE-ELM
Telephone: 9512537015
Mailing Name: Not reported
Mailing Address: 545 CHANEY ST

Year: 2016
Gepaid: CAC002851203
TSD EPA ID: CAD028409019
CA Waste Code: 141 - Off-specification, aged or surplus inorganics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.0375

Year: 2016
Gepaid: CAC002851203
TSD EPA ID: CAD028409019
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.03

Year: 2016
Gepaid: CAC002851203
TSD EPA ID: CAD028409019
CA Waste Code: 343 - Unspecified organic liquid mixture
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.05

Year: 2016
Gepaid: CAC002851203
TSD EPA ID: CAD028409019
CA Waste Code: 551 - Laboratory waste chemicals
Disposal Method: H061 - Fuel Blending Prior To Energy Recovery At Another Site
Tons: 0.15

CERS:
Name: DONALD GRAHAM MEDICA
Address: 35450 FREDERICK STREET
City,State,Zip: WILDOMAR, CA 92595
Site ID: 371019

DONALD GRAHAM MEDICA (Continued) **S118757190**

CERS ID: 60000994
CERS Description: School Investigation

Affiliation:
Affiliation Type Desc: Supervisor
Entity Name: SHAHIR HADDAD
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Lead Project Manager
Entity Name: CHRISTINE CHIU
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: CYPRESS
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

HWTS:
Name: DONALD GRAHAM ELEMENTARY SCHOOL
Address: 35450 FREDERICK ST
Address 2: Not reported
City,State,Zip: WILDOMAR, CA 92595
EPA ID: CAC002851203
Inactive Date: 06/02/2016
Create Date: 03/02/2016
Last Act Date: 06/02/2016
Mailing Name: Not reported
Mailing Address: 545 CHANEY ST
Mailing Address 2: Not reported
Mailing City,State,Zip: LAKE ELSINORE, CA 92530
Owner Name: LAKE ELSINORE UNIFIED SCHOOL DISTRI
Owner Address: 545 CHANEY ST
Owner Address 2: Not reported
Owner City,State,Zip: LAKE ELSINORE, CA 92530
Contact Name: TINA KOONCE-ELM
Contact Address: 545 CHANEY ST
Contact Address 2: Not reported
City,State,Zip: LAKE ELSINORE, CA 92530

NAICS:
EPA ID: CAC002851203
Create Date: 2016-03-02 11:07:25.950
NAICS Code: 61171
NAICS Description: Educational Support Services
Issued EPA ID Date: 2016-03-02 11:07:25.96000
Inactive Date: 2016-06-02 03:00:19.02700
Facility Name: DONALD GRAHAM ELEMENTARY SCHOOL
Facility Address: 35450 FREDERICK ST
Facility Address 2: Not reported
Facility City: WILDOMAR

DONALD GRAHAM MEDICA (Continued) **S118757190**

Facility County: Not reported
Facility State: CA
Facility Zip: 92595

Count: 2 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MURRIETA	S107538185		CORNER OF SIERRA LAND & MCELWA	92562	CDL
RIVERSIDE COUNTY	S107541240		WINEVILLE, SW CORNER OF GAGELE		CDL

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/30/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/09/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 39

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 02/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/24/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 85

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/08/2021
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 05/03/2021
Number of Days to Update: 83

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/07/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 12/22/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 12/18/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 84

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 03/05/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 04/01/2021
Number of Days to Update: 23

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)

Military ust sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/09/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/02/2020
Date Data Arrived at EDR: 12/18/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 84

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/08/2020
Date Data Arrived at EDR: 05/20/2020
Date Made Active in Reports: 08/12/2020
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/12/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/07/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 86

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/30/2020
Date Data Arrived at EDR: 12/22/2020
Date Made Active in Reports: 03/12/2021
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 06/11/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: No Update Planned

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: No Update Planned

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/15/2021
Date Data Arrived at EDR: 03/16/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/09/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 11/23/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/22/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 83

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/22/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/13/2021
Number of Days to Update: 77

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/07/2020
Date Data Arrived at EDR: 12/09/2020
Date Made Active in Reports: 03/02/2021
Number of Days to Update: 83

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 02/24/2021
Date Data Arrived at EDR: 02/24/2021
Date Made Active in Reports: 05/14/2021
Number of Days to Update: 79

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24
Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 78
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16
Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing
Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 77
Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/24/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 85

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 04/04/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 47

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/07/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/17/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/20/2021
Date Data Arrived at EDR: 01/21/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 60

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 01/22/2021
Date Data Arrived at EDR: 02/18/2021
Date Made Active in Reports: 05/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/19/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/05/2021
Number of Days to Update: 50

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020
Date Data Arrived at EDR: 01/08/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 73

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: No Update Planned

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/11/2021
Date Made Active in Reports: 05/11/2021
Number of Days to Update: 61

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/07/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: No Update Planned

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 01/13/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 68

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/02/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/21/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/02/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 04/28/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: No Update Planned

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: No Update Planned

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 05/27/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 14

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/01/2021
Date Data Arrived at EDR: 02/24/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 84

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/23/2021
Date Data Arrived at EDR: 03/25/2021
Date Made Active in Reports: 06/17/2021
Number of Days to Update: 84

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/14/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/03/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 33

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/17/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/04/2021
Date Data Arrived at EDR: 04/06/2021
Date Made Active in Reports: 06/25/2021
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 07/07/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/17/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/22/2021
Date Data Arrived at EDR: 03/23/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 79

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/04/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 77

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing

A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 02/26/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 02/23/2021
Date Data Arrived at EDR: 02/25/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 83

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 06/16/2020
Date Made Active in Reports: 08/28/2020
Number of Days to Update: 73

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/16/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 04/14/2021
Date Data Arrived at EDR: 04/15/2021
Date Made Active in Reports: 07/06/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/08/2021
Date Data Arrived at EDR: 02/12/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 82

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/16/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/07/2021
Number of Days to Update: 79

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/16/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/05/2021
Date Data Arrived at EDR: 04/06/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 02/08/2021
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 05/04/2021
Number of Days to Update: 84

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 78

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/09/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/12/2021
Date Data Arrived at EDR: 03/16/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 11/19/2019
Date Data Arrived at EDR: 01/07/2020
Date Made Active in Reports: 03/09/2020
Number of Days to Update: 62

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/14/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)

Military privatized sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)

Projects sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 03/09/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 06/07/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 11/30/2020
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/12/2021
Number of Days to Update: 73

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 05/19/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/30/2021
Number of Days to Update: 21
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3
Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 05/27/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System
DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 04/08/2021
Date Data Arrived at EDR: 04/09/2021
Date Made Active in Reports: 04/20/2021
Number of Days to Update: 11
Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Varies

PCS: Permit Compliance System
PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55
Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29
Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: No Update Planned

PCS INACTIVE: Listing of Inactive PCS Permits
An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120
Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/30/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 03/17/2021
Date Data Arrived at EDR: 03/18/2021
Date Made Active in Reports: 03/25/2021
Number of Days to Update: 7

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List

Cupa Facility List

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing

Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 06/15/2021
Date Data Arrived at EDR: 06/16/2021
Date Made Active in Reports: 07/02/2021
Number of Days to Update: 16

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 01/25/2021
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/16/2021
Number of Days to Update: 80

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/20/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 12/17/2020
Date Data Arrived at EDR: 01/28/2021
Date Made Active in Reports: 04/16/2021
Number of Days to Update: 78

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/09/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 01/14/2021
Date Data Arrived at EDR: 01/15/2021
Date Made Active in Reports: 04/05/2021
Number of Days to Update: 80

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 2

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/10/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/14/2021
Date Data Arrived at EDR: 04/15/2021
Date Made Active in Reports: 07/06/2021
Number of Days to Update: 82

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 10/29/2020
Date Data Arrived at EDR: 10/30/2020
Date Made Active in Reports: 01/15/2021
Number of Days to Update: 77

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 01/19/2021
Date Data Arrived at EDR: 01/21/2021
Date Made Active in Reports: 01/28/2021
Number of Days to Update: 7

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 02/10/2021
Date Data Arrived at EDR: 02/12/2021
Date Made Active in Reports: 03/11/2021
Number of Days to Update: 27

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 07/06/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 04/08/2021
Date Data Arrived at EDR: 04/13/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 76

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 06/29/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/12/2021
Date Data Arrived at EDR: 04/13/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 76

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2021
Date Data Arrived at EDR: 02/18/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 81

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 07/06/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 02/04/2021
Date Data Arrived at EDR: 04/16/2021
Date Made Active in Reports: 04/21/2021
Number of Days to Update: 5

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 04/16/2021
Next Scheduled EDR Contact: 07/26/2021
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 11

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 06/17/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 04/16/2021
Date Made Active in Reports: 07/06/2021
Number of Days to Update: 81

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 07/06/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 09/11/2020
Date Data Arrived at EDR: 10/07/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 77

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/23/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: No Update Planned

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 03/24/2021
Date Data Arrived at EDR: 04/07/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/04/2021
Date Data Arrived at EDR: 02/09/2021
Date Made Active in Reports: 02/18/2021
Number of Days to Update: 9

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 06/02/2021
Next Scheduled EDR Contact: 09/06/3021
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/23/2021
Date Data Arrived at EDR: 06/23/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 1

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 02/03/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/21/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/01/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 05/03/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 9

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 04/29/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/01/2021
Date Data Arrived at EDR: 02/02/2021
Date Made Active in Reports: 04/20/2021
Number of Days to Update: 77

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/26/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 6

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/10/2021
Number of Days to Update: 55

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/10/2021
Number of Days to Update: 55

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 06/07/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 03/30/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 07/01/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 03/30/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/25/2021
Number of Days to Update: 85

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 06/23/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 04/29/2021
Date Made Active in Reports: 05/03/2021
Number of Days to Update: 4

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 05/19/2021
Date Data Arrived at EDR: 05/19/2021
Date Made Active in Reports: 06/07/2021
Number of Days to Update: 19

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/03/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 03/02/2021
Date Data Arrived at EDR: 03/03/2021
Date Made Active in Reports: 05/21/2021
Number of Days to Update: 79

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 05/28/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 06/08/2021
Next Scheduled EDR Contact: 09/27/2021
Data Release Frequency: No Update Planned

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/07/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 05/14/2021
Number of Days to Update: 3

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/06/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/10/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 06/02/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: No Update Planned

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 02/24/2021
Date Data Arrived at EDR: 02/26/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 82

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/18/2021
Next Scheduled EDR Contact: 09/06/2021
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/21/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/12/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: No Update Planned

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/23/2021
Date Data Arrived at EDR: 03/25/2021
Date Made Active in Reports: 06/10/2021
Number of Days to Update: 77

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 09/12/2021
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 12/15/2020
Date Data Arrived at EDR: 12/16/2020
Date Made Active in Reports: 12/23/2020
Number of Days to Update: 7

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 06/28/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/01/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 06/15/2021
Next Scheduled EDR Contact: 10/04/2021
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 02/09/2021
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 05/05/2021
Number of Days to Update: 83

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 07/06/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 05/25/2021
Next Scheduled EDR Contact: 09/13/2021
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 04/06/2021
Number of Days to Update: 82

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 04/14/2021
Date Data Arrived at EDR: 04/15/2021
Date Made Active in Reports: 07/06/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 02/04/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 78

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 04/27/2021
Next Scheduled EDR Contact: 08/16/2021
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/14/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/28/2020
Date Data Arrived at EDR: 01/29/2021
Date Made Active in Reports: 04/22/2021
Number of Days to Update: 83
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/19/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/05/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 03/29/2021
Date Data Arrived at EDR: 04/21/2021
Date Made Active in Reports: 04/23/2021
Number of Days to Update: 2
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/19/2021
Next Scheduled EDR Contact: 08/02/2021
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 03/01/2021
Date Data Arrived at EDR: 03/09/2021
Date Made Active in Reports: 03/31/2021
Number of Days to Update: 22
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 06/04/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/26/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 06/22/2021
Next Scheduled EDR Contact: 10/11/2021
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 04/21/2021
Date Data Arrived at EDR: 04/22/2021
Date Made Active in Reports: 05/12/2021
Number of Days to Update: 20

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/24/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 10/05/2020
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 82

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/11/2021
Next Scheduled EDR Contact: 08/23/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/09/2021
Next Scheduled EDR Contact: 10/18/2021
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 04/30/2021
Next Scheduled EDR Contact: 08/09/2021
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/07/2021
Next Scheduled EDR Contact: 10/25/2021
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 02/24/2021
Number of Days to Update: 13

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/13/2021
Next Scheduled EDR Contact: 08/30/2021
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/03/2021
Next Scheduled EDR Contact: 09/20/2021
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

SAGE WILDOMAR PHASE I ESA
NW CORNER OF CLINTON KEITH RD AND WILDOMAR TRAIL
WILDOMAR, CA 92595

TARGET PROPERTY COORDINATES

Latitude (North):	33.598694 - 33° 35' 55.30''
Longitude (West):	117.241902 - 117° 14' 30.85''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	477555.8
UTM Y (Meters):	3717494.5
Elevation:	1345 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5641304 MURRIETA, CA
Version Date:	2012
Southwest Map:	5636487 WILDOMAR, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

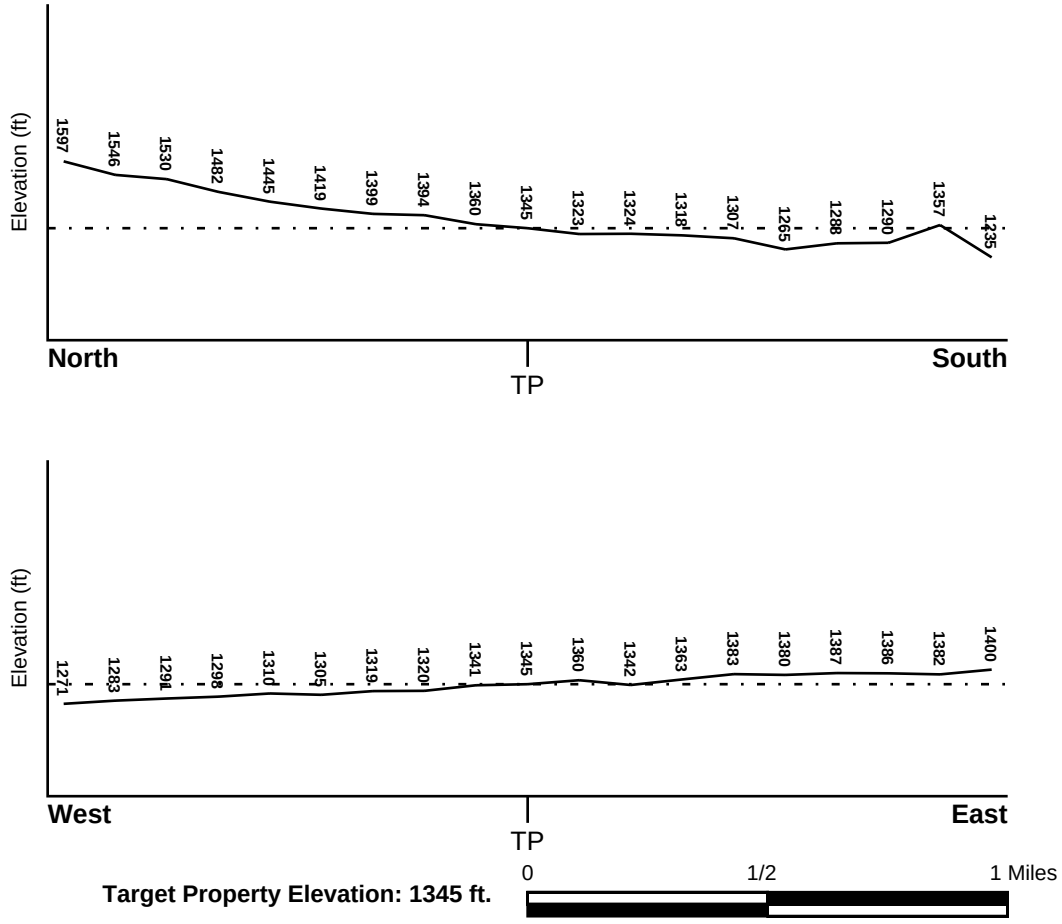
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06065C2705G	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06065C2682G	FEMA FIRM Flood data
06065C2684G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MURRIETA	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

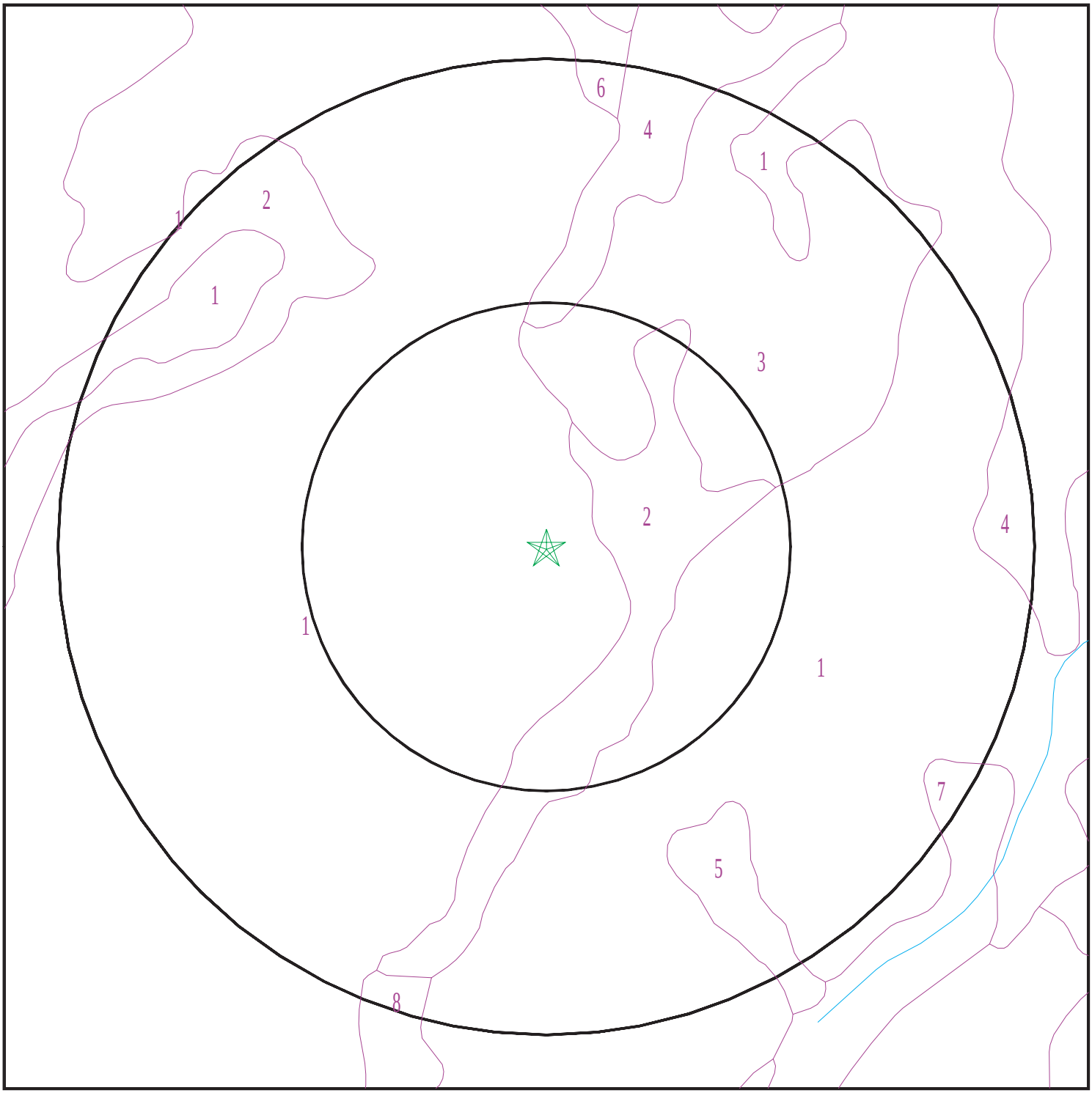
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 6571762.2s



SITE NAME:	Sage Wildomar Phase I ESA	CLIENT:	Leighton and Associates, Inc.
ADDRESS:	NW Corner of Clinton Keith Rd and Wildomar Trail WILDOMAR CA 92595	CONTACT:	Tracy Roberts
LAT/LONG:	33.598694 / 117.241902	INQUIRY #:	6571762.2s
		DATE:	July 12, 2021 1:56 pm

Copyright © 2021 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: PLACENTIA

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	18 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
2	18 inches	38 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
3	38 inches	57 inches	clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9
4	57 inches	59 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Gravels, Gravels with fines, Silty Gravel	Max: 1.4 Min: 0.42	Max: 8.4 Min: 7.9

Soil Map ID: 2

Soil Component Name: HANFORD

Soil Surface Texture: coarse sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6
2	7 inches	40 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6
3	40 inches	59 inches	stratified loamy sand to coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

Soil Map ID: 3

Soil Component Name: MONSERATE

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	9 inches	18 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
3	18 inches	44 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
4	44 inches	57 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
5	57 inches	70 inches	loamy coarse sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 4

Soil Component Name: Terrace escarpments

Soil Surface Texture: sandy loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class:

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 5

Soil Component Name: MONSERATE

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
2	9 inches	27 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
3	27 inches	44 inches	indurated	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
4	44 inches	57 inches	cemented	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6
5	57 inches	70 inches	loamy coarse sand	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 6

Soil Component Name: CIENEBA

Soil Surface Texture: sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	Not reported	Max: 0.42 Min: 0	Max: Min:

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	14 inches	22 inches	weathered bedrock	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	Not reported	Max: 0.42 Min: 0	Max: Min:

Soil Map ID: 7

Soil Component Name: HANFORD

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6
2	7 inches	40 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	40 inches	59 inches	stratified loamy sand to coarse sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.8 Min: 5.6

Soil Map ID: 8

Soil Component Name: RAMONA

Soil Surface Texture: very fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	14 inches	very fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	14 inches	22 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	22 inches	68 inches	sandy clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	68 inches	74 inches	gravelly sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Clayey sand. COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	USGS40000135771	0 - 1/8 Mile ESE
C4	USGS40000135723	1/4 - 1/2 Mile SSW
C5	USGS40000135724	1/4 - 1/2 Mile SSW
B8	USGS40000135745	1/4 - 1/2 Mile ESE
E12	USGS40000135776	1/4 - 1/2 Mile West
D13	USGS40000135717	1/4 - 1/2 Mile SE
15	USGS40000135707	1/4 - 1/2 Mile SSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
G17	USGS40000135821	1/4 - 1/2 Mile WNW
G18	USGS40000135822	1/4 - 1/2 Mile WNW
F22	USGS40000135770	1/2 - 1 Mile East
23	USGS40000135704	1/2 - 1 Mile SW
H26	USGS40000135783	1/2 - 1 Mile East
I27	USGS40000135683	1/2 - 1 Mile South
J28	USGS40000135746	1/2 - 1 Mile WSW
H29	USGS40000135782	1/2 - 1 Mile East
J32	USGS40000135733	1/2 - 1 Mile WSW
M35	USGS40000135805	1/2 - 1 Mile WNW
L39	USGS40000135738	1/2 - 1 Mile ESE
40	USGS40000135673	1/2 - 1 Mile South
O44	USGS40000135642	1/2 - 1 Mile SSW
O46	USGS40000135635	1/2 - 1 Mile SSW
P48	USGS40000135670	1/2 - 1 Mile SW
R50	USGS40000135784	1/2 - 1 Mile West
P52	USGS40000135649	1/2 - 1 Mile SW
P53	USGS40000135655	1/2 - 1 Mile SW
Q54	USGS40000135755	1/2 - 1 Mile East
T55	USGS40000135998	1/2 - 1 Mile NNW
U56	USGS40000135617	1/2 - 1 Mile SSW
S59	USGS40000135648	1/2 - 1 Mile SE
U61	USGS40000135613	1/2 - 1 Mile SSW
64	USGS40000135747	1/2 - 1 Mile West
T65	USGS40000136004	1/2 - 1 Mile NNW
T68	USGS40000136006	1/2 - 1 Mile NNW
T70	USGS40000136007	1/2 - 1 Mile NNW
X71	USGS40000135650	1/2 - 1 Mile SW
72	USGS40000135628	1/2 - 1 Mile SSW
V76	USGS40000135828	1/2 - 1 Mile ENE
W77	USGS40000135687	1/2 - 1 Mile WSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

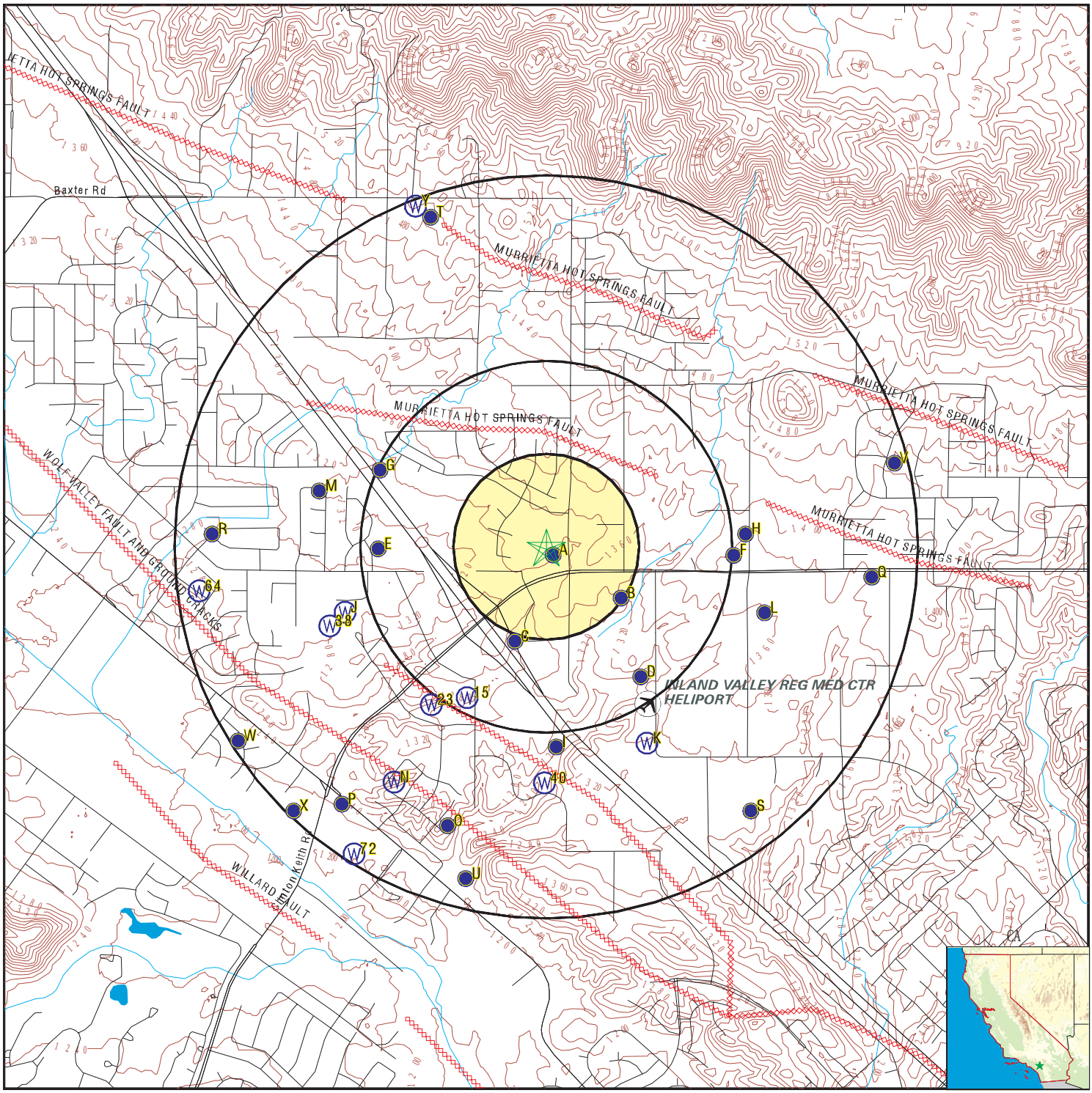
MAP ID	WELL ID	LOCATION FROM TP
A1	CADWR9000004364	0 - 1/8 Mile SSW
B3	CADWR9000004349	1/8 - 1/4 Mile SE
C6	CADWR0000027795	1/4 - 1/2 Mile SSW
C7	CAUSGSN00004466	1/4 - 1/2 Mile SSW
C9	CADWR9000004329	1/4 - 1/2 Mile SSW
C10	CADWR9000004330	1/4 - 1/2 Mile SSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D11	CADWR9000004326	1/4 - 1/2 Mile SSE
F14	CADWR9000004363	1/4 - 1/2 Mile East
E16	CADWR9000004367	1/4 - 1/2 Mile West
G19	CADWR9000004390	1/2 - 1 Mile WNW
F20	CADWR0000014139	1/2 - 1 Mile East
H21	CADWR9000004369	1/2 - 1 Mile East
F24	CAUSGSN00010001	1/2 - 1 Mile East
I25	CADWR9000004305	1/2 - 1 Mile South
K30	CAEDF0000005701	1/2 - 1 Mile SSE
K31	CAEDF0000091254	1/2 - 1 Mile SSE
K33	CAEDF0000021150	1/2 - 1 Mile SSE
L34	CADWR9000004345	1/2 - 1 Mile ESE
K36	CAEDF0000075769	1/2 - 1 Mile SSE
K37	CAEDF0000011252	1/2 - 1 Mile SSE
38	CADWR9000004340	1/2 - 1 Mile WSW
M41	CADWR9000004381	1/2 - 1 Mile WNW
N42	CADWR0000003730	1/2 - 1 Mile SSW
N43	CADWR0000014672	1/2 - 1 Mile SSW
O45	CADWR9000004276	1/2 - 1 Mile SSW
O47	CADWR9000004269	1/2 - 1 Mile SSW
Q49	CADWR9000004354	1/2 - 1 Mile East
S51	CADWR9000004281	1/2 - 1 Mile SE
U57	CADWR9000004259	1/2 - 1 Mile SSW
P58	CADWR9000004282	1/2 - 1 Mile SW
T60	CADWR9000004480	1/2 - 1 Mile NNW
R62	CADWR9000004370	1/2 - 1 Mile West
U63	CADWR9000004256	1/2 - 1 Mile SSW
V66	CADWR9000004392	1/2 - 1 Mile ENE
V67	CADWR9000004393	1/2 - 1 Mile ENE
W69	CADWR0000025370	1/2 - 1 Mile WSW
Y73	CADWR9000004485	1/2 - 1 Mile NNW
Y74	CADWR9000004486	1/2 - 1 Mile NNW
V75	CAUSGSN00002335	1/2 - 1 Mile ENE
W78	CAUSGSN00018427	1/2 - 1 Mile WSW
X79	CADWR9000004283	1/2 - 1 Mile SW

PHYSICAL SETTING SOURCE MAP - 6571762.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Sage Wildomar Phase I ESA	CLIENT:	Leighton and Associates, Inc.
ADDRESS:	NW Corner of Clinton Keith Rd and Wildomar Trail WILDOMAR CA 92595	CONTACT:	Tracy Roberts
LAT/LONG:	33.598694 / 117.241902	INQUIRY #:	6571762.2s
		DATE:	July 12, 2021 1:56 pm

Copyright © 2021 EDR, Inc. © 2015 TomTom Rel. 2015.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
SSW
0 - 1/8 Mile
Lower

CA WELLS **CADWR9000004364**

State Well #:	06S04W36R001S	Station ID:	7257
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

A2
ESE
0 - 1/8 Mile
Lower

FED USGS **USGS40000135771**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S004W36R001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19610101	Well Depth:	132
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	37.00	Feet to sea level:	Not Reported
Note:	Not Reported		

B3
SE
1/8 - 1/4 Mile
Lower

CA WELLS **CADWR9000004349**

State Well #:	07S03W06D001S	Station ID:	12347
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

C4
SSW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000135723**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01A001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported

Construction Date:	19490101	Well Depth:	187
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	78.00	Feet to sea level:	Not Reported
Note:	Not Reported		

C5
SSW **FED USGS** **USGS40000135724**
1/4 - 1/2 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01A002S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19510101	Well Depth:	167
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	79.00	Feet to sea level:	Not Reported
Note:	Not Reported		

C6
SSW **CA WELLS** **CADWR0000027795**
1/4 - 1/2 Mile
Lower

Well ID:	07S04W01A001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	07S04W01A001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=07S04W01A001S&store_num=		
GeoTracker Data:	Not Reported		

C7
SSW **CA WELLS** **CAUSGSN00004466**
1/4 - 1/2 Mile
Lower

Well ID:	USGS-333542117143201	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-333542117143201	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-333542117143201&store_num=		
GeoTracker Data:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B8
ESE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000135745**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S003W06D001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	258
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-02-01
Feet below surface:	12.00	Feet to sea level:	Not Reported
Note:	Not Reported		

C9
SSW
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000004329**

State Well #:	07S04W01A001S	Station ID:	8372
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

C10
SSW
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000004330**

State Well #:	07S04W01A002S	Station ID:	30911
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

D11
SSE
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000004326**

State Well #:	07S03W06E001S	Station ID:	12348
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

E12
West
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000135776**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S004W36P001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19600101	Well Depth:	79
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	56.00	Feet to sea level:	Not Reported
Note:	Not Reported		

D13
SE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000135717**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S003W06E001S	Type:	Well
Description:	Not Reported	HUC:	18070202
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	177
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-02-01
Feet below surface:	16.00	Feet to sea level:	Not Reported
Note:	Not Reported		

F14
East
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR9000004363**

State Well #:	06S03W31P001S	Station ID:	9771
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

15
SSW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000135707**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01G001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	20
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

E16
West
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000004367**

State Well #:	06S04W36P001S	Station ID:	7123
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

G17
WNW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000135821**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S004W36L001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	65
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	54.00	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G18
WNW
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000135822**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S004W36L002S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	37
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

G19
WNW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000004390**

State Well #:	06S04W36L001S	Station ID:	7122
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

F20
East
1/2 - 1 Mile
Higher

CA WELLS **CADWR0000014139**

Well ID:	06S03W31P001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	06S03W31P001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=06S03W31P001S&store_num=		
GeoTracker Data:	Not Reported		

H21
East
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000004369**

State Well #:	06S03W31P003S	Station ID:	9772
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

F22
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000135770**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S003W31P001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19520101
Well Depth:	24	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1968-04-01
Feet below surface:	10.00	Feet to sea level:	Not Reported
Note:	Not Reported		

23
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135704**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01G002S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

F24
East
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00010001**

Well ID:	USGS-333554117135501	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-333554117135501	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-333554117135501&store_num=		
GeoTracker Data:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

I25
South
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000004305**

State Well #:	07S04W01H001S	Station ID:	38172
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

H26
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000135783**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S003W31P002S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	Not Reported	Well Depth Units:	Not Reported
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

---

I27
South
1/2 - 1 Mile
Lower

FED USGS **USGS40000135683**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01H001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	268
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	5.00	Feet to sea level:	Not Reported
Note:	Not Reported		

J28
WSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135746**

Organization ID:	USGS-CA
Organization Name:	USGS California Water Science Center

Monitor Location:	007S004W01C001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

H29
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000135782**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S003W31P003S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	31	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1968-04-01
Feet below surface:	18.00	Feet to sea level:	Not Reported
Note:	Not Reported		

K30
SSE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000005701**

Well ID:	T0606599184-MW-4	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-4
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0606599184&assigned_name=MW-4&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0606599184&assigned_name=MW-4		

K31
SSE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000091254**

Well ID:	T0606599184-MW-3	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-3
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0606599184&assigned_name=MW-3&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0606599184&assigned_name=MW-3		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J32
WSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135733**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01C002S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	90
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	15.00	Feet to sea level:	Not Reported
Note:	Not Reported		

K33
SSE
1/2 - 1 Mile
Lower

CA WELLS **CAEDF0000021150**

Well ID:	T0606599184-MW-5	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-5
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0606599184&assigned_name=MW-5&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0606599184&assigned_name=MW-5		

L34
ESE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000004345**

State Well #:	07S03W06B001S	Station ID:	30327
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

M35
WNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135805**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S004W36P002S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19630101	Well Depth:	309
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	39.00	Feet to sea level:	Not Reported
Note:	Not Reported		

K36
SSE **CA WELLS** **CAEDF0000075769**
1/2 - 1 Mile
Lower

Well ID:	T0606599184-MW-2	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-2
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0606599184&assigned_name=MW-2&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0606599184&assigned_name=MW-2		

K37
SSE **CA WELLS** **CAEDF0000011252**
1/2 - 1 Mile
Lower

Well ID:	T0606599184-MW-1	Well Type:	MONITORING
Source:	EDF	Other Name:	MW-1
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=EDF&samp_date=&global_id=T0606599184&assigned_name=MW-1&store_num=		
GeoTracker Data:	https://geotracker.waterboards.ca.gov/profile_report.asp?cmd=MWEDFResults&global_id=T0606599184&assigned_name=MW-1		

38
WSW **CA WELLS** **CADWR9000004340**
1/2 - 1 Mile
Lower

State Well #:	07S04W01C002S	Station ID:	8373
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

L39
ESE **FED USGS** **USGS40000135738**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA
Organization Name:	USGS California Water Science Center

Monitor Location:	007S003W06B001S	Type:	Well
Description:	Not Reported	HUC:	18070202
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	35
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-02-01
Feet below surface:	18.00	Feet to sea level:	Not Reported
Note:	Not Reported		

40
South
1/2 - 1 Mile
Lower

FED USGS **USGS40000135673**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01Z001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19610101	Well Depth:	436
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

M41
WNW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000004381**

State Well #:	06S04W36P002S	Station ID:	7256
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

N42
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000003730**

Well ID:	07S04W01Q005S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	07S04W01Q005S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=07S04W01Q005S&store_num=		
GeoTracker Data:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

N43
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000014672**

Well ID:	07S04W01Q003S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	07S04W01Q003S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=07S04W01Q003S&store_num=		
GeoTracker Data:	Not Reported		

O44
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135642**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01K001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19570101	Well Depth:	125
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-04-01
Feet below surface:	78.00	Feet to sea level:	Not Reported
Note:	Not Reported		

O45
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000004276**

State Well #:	07S04W01K001S	Station ID:	8375
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

O46
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135635**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01K002S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported

Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19590101	Well Depth:	103
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	15.00	Feet to sea level:	Not Reported
Note:	Not Reported		

O47
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000004269**

State Well #:	07S04W01K002S	Station ID:	8376
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

P48
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135670**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01L001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19280101	Well Depth:	35
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Q49
East
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000004354**

State Well #:	07S03W06A001S	Station ID:	12346
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

R50
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000135784**

Organization ID:	USGS-CA
Organization Name:	USGS California Water Science Center

Monitor Location:	006S004W36N001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19540101	Well Depth:	190
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	44.00	Feet to sea level:	Not Reported
Note:	Not Reported		

S51
SE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000004281**

State Well #:	07S03W06K001S	Station ID:	12349
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

P52
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135649**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01L004S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19600101	Well Depth:	68
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	36.00	Feet to sea level:	Not Reported
Note:	Not Reported		

P53
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135655**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01L002S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported

Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19280101	Well Depth:	75
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Q54
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000135755**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S003W06A001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	47	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1968-01-01
Feet below surface:	10.00	Feet to sea level:	Not Reported
Note:	Not Reported		

T55
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000135998**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S004W36B005S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19630101
Well Depth:	184	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	55.00	Feet to sea level:	Not Reported
Note:	Not Reported		

U56
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135617**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01Q008S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19580101	Well Depth:	65
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-04-01
Feet below surface:	14.00	Feet to sea level:	Not Reported
Note:	Not Reported		

U57
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000004259**

State Well #:	07S04W01Q008S	Station ID:	8386
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

P58
SW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000004282**

State Well #:	07S04W01L004S	Station ID:	8378
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

S59
SE
1/2 - 1 Mile
Lower

FED USGS **USGS40000135648**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S003W06K001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19530101	Well Depth:	166
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-02-01
Feet below surface:	43.00	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

T60
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000004480**

State Well #:	06S04W36B005S	Station ID:	28080
Well Name:	Not Reported	Basin Name:	Not Reported
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

U61
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135613**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01Q006S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	65
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-04-01
Feet below surface:	12.00	Feet to sea level:	Not Reported
Note:	Not Reported		

R62
West
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000004370**

State Well #:	06S04W36N001S	Station ID:	28081
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

U63
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000004256**

State Well #:	07S04W01Q006S	Station ID:	8385
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

64
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000135747**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W02A001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19560101	Well Depth:	133
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

T65
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000136004**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S004W36B003S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19460101
Well Depth:	68	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

---

V66
ENE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000004392**

State Well #:	06S03W31R002S	Station ID:	9773
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

V67
ENE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000004393**

State Well #:	06S03W31R001S	Station ID:	31705
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

T68
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000136006**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S004W36B004S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19500101
Well Depth:	74	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	64.00	Feet to sea level:	Not Reported
Note:	Not Reported		

W69
WSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000025370**

Well ID:	07S04W01E001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	07S04W01E001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=07S04W01E001S&store_num=		
GeoTracker Data:	Not Reported		

T70
NNW
1/2 - 1 Mile
Higher

FED USGS **USGS40000136007**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S004W36B002S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19560101
Well Depth:	73	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	67.00	Feet to sea level:	Not Reported
Note:	Not Reported		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

X71
SW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135650**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01L003S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19270101	Well Depth:	55
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	33.00	Feet to sea level:	Not Reported
Note:	Not Reported		

72
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135628**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01P001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	24.00	Feet to sea level:	Not Reported
Note:	Not Reported		

Y73
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000004485**

State Well #:	06S04W36B004S	Station ID:	7120
Well Name:	Not Reported	Basin Name:	Not Reported
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Y74
NNW
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000004486**

State Well #:	06S04W36B002S	Station ID:	28079
Well Name:	Not Reported	Basin Name:	Not Reported
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

V75
ENE
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00002335**

Well ID:	USGS-333607117132801	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-333607117132801	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-333607117132801&store_num=		
GeoTracker Data:	Not Reported		

V76
ENE
1/2 - 1 Mile
Higher

FED USGS **USGS40000135828**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	006S003W31R001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Other aquifers	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	19480101
Well Depth:	61	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1968-04-01
Feet below surface:	20.00	Feet to sea level:	Not Reported
Note:	Not Reported		

W77
WSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000135687**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	007S004W01E001S	Type:	Well
Description:	Not Reported	HUC:	18070302
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	California Coastal Basin aquifers		

Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	123
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1968-03-01
Feet below surface:	32.00	Feet to sea level:	Not Reported
Note:	Not Reported		

W78
WSW **CA WELLS** **CAUSGSN00018427**
1/2 - 1 Mile
Lower

Well ID:	USGS-333528117152001	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-333528117152001	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-333528117152001&store_num=		
GeoTracker Data:	Not Reported		

X79
SW **CA WELLS** **CADWR9000004283**
1/2 - 1 Mile
Lower

State Well #:	07S04W01L003S	Station ID:	8377
Well Name:	Not Reported	Basin Name:	Temecula Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92595	5	0

Federal EPA Radon Zone for RIVERSIDE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for RIVERSIDE COUNTY, CA

Number of sites tested: 12

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.117 pCi/L	100%	0%	0%
Living Area - 2nd Floor	0.450 pCi/L	100%	0%	0%
Basement	1.700 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

Appendix F
Local and Regional Regulatory Records

From:	Tracy Roberts
To:	"DEHRecordsMgmt@rivco.org"; "landuse@rivco.org"
Subject:	Records Request- Wildomar, CA
Date:	Wednesday, July 14, 2021 5:07:26 PM
Attachments:	RCDEH Records Request_Sage Wildomar.pdf image003.png

---

Hello,

Please conduct a search, and notify us of the results for any records associated with the following properties on the **NW Corner of Clinton Keith Road and Wildomar Trail, in the city of Wildomar, County of Riverside, California**:

24850 Catt Road
24900 Catt Road
23980 Catt Road
23940 Catt Road

Thank you,

Tracy Roberts
Staff Environmental Geologist
10532 Acacia Street, Suite B-6
Rancho Cucamonga, CA 91730
o. 909-527-8774
m. 909-222-9018



Summer 2021
A fresh, new look is coming.
It's 60 years in the making.

From: Tran, My
To: Tracy Roberts
Subject: APN 376-410-015, 016, 017, 021
Date: Tuesday, July 20, 2021 9:52:51 AM
Attachments: image001.png

Good morning,

No records were found for requested.

My Tran
Environmental Health Specialist III
County of Riverside – Environmental Health
3880 Lemon St, Suite 200
Riverside, CA 92501
Office: 951-955-8980

Confidentiality Disclaimer

This email is confidential and intended solely for the use of the individual(s) to whom it is addressed. The information contained in this message may be privileged and confidential and protected from disclosure.
If you are not the author's intended recipient, be advised that you have received this email in error and that any use, dissemination, forwarding, printing, or copying of this email is strictly prohibited. If you have received this email in error please delete all copies, both electronic and printed, and contact the author immediately.

County of Riverside California

County of Riverside

DEPARTMENT OF ENVIRONMENTAL HEALTH

KEITH JONES, DIRECTOR

Records Request Acknowledgement Letter

July 22, 2021

Request No: **51779**

Request Date: **7/14/2021**

Leighton & Associates, Inc
10532 Acacia St.
Suite B-6
Rancho Cucamonga, CA 91730
Attn: Tracy Roberts

Re: **24850 24900 23980 23940 Catt Rd., Wildomar**

We have received your request for records and a search of our files is being processed.

Once the research is completed, **you will be notified by mail** if records are or are not found.

Note: The files for Hazardous Materials Management Division began in 1986. Records for disclosure information of the cities of Corona 951-736-2220 and Riverside 951-826-5737 need to be directed to the City Fire Department.

Please direct any questions or correspondence to:

Riverside County Department of Environmental Health
Hazardous Materials Management Division
4065 County Circle Dr., Rm. 104
P.O. Box 7909
Riverside, CA 92513-7909
Attention: Records Management
Telephone: 951-358-5055 * Fax: 951-358-5017

You may visit our website at **www.rivcoeh.org**

County of Riverside

DEPARTMENT OF ENVIRONMENTAL HEALTH

KEITH JONES, DIRECTOR

RELEASE OF RECORDS RESPONSE

July 22, 2021

Service Request No: 51779

Leighton & Associates
10532 Acacia St.
Suite B-6
Rancho Cucamonga, CA 91730
Attn: Tracy Roberts

Your request concerning **Hazardous Materials Management Records** has been received and a file search has been conducted. The appropriate action has been taken.

Site Address	City	Records Found
24850 24900 23980 23940 Catt Rd	**Wildomar**	☐ **YES** ☒ **NO**
THIS IS NOT AN INVOICE	**Estimated Cost**	**$0.00**

If no records are found, no further action will be taken.

If records are found, please contact our office at (951) 358-5055 to schedule a file review appointment. Records will be available for 30 days from the date of this letter, after which a new Records Request will need to be submitted.

** There is a clerical records research fee of **$.50 for the first page, plus $.10 per additional page **Records will not be made available until this fee is paid****

Other fees may apply

Note: Additional time for processing may be required

Appointments are scheduled in one (1) hour increments, not to exceed two (2) hours.

Environmental Protection & Oversight Division
Hazardous Materials Management Branch
Attn: Records Management
P.O. Box 7909
Riverside, CA 92513-7909
Ph: (951) 358-5055
Fax (951) 358-5342

From:	Tracy Roberts
To:	"chatsworthfileroom@dtsc.ca.gov"
Subject:	Records Request- Wildomar, CA
Date:	Friday, July 9, 2021 4:47:23 PM
Attachments:	image001.png

Hello,

Please conduct a search, and notify us of the results for any records associated with the following property:

Riverside County APNs 376-410-015, 376-410-016, 376-410-017, and 376-410-021 / Approx acres at NW corner of Clinton Keith Road and Wildomar Trail, Wildomar, CA 92595.

Thank you,

Tracy Roberts
Staff Environmental Geologist
10532 Acacia Street, Suite B-6
Rancho Cucamonga, CA 91730
o. 909-527-8774
m. 909-222-9018



Summer 2021
A fresh, new look is coming.
It's 60 years in the making.

From: Tracy Roberts
To: "cypressfileroom@dtsc.ca.gov"
Subject: Records Request- Wildomar, CA
Date: Friday, July 9, 2021 4:48:02 PM
Attachments: image001.png

Hello,

Please conduct a search, and notify us of the results for any records associated with the following property:

Riverside County APNs 376-410-015, 376-410-016, 376-410-017, and 376-410-021 / Approx acres at NW corner of Clinton Keith Road and Wildomar Trail, Wildomar, CA 92595.

Thank you,

Tracy Roberts
Staff Environmental Geologist
10532 Acacia Street, Suite B-6
Rancho Cucamonga, CA 91730
o. 909-527-8774
m. 909-222-9018



Summer 2021
A fresh, new look is coming.
It's 60 years in the making.

Department of Toxic Substances Control

Meredith Williams, Ph.D., Director
5796 Corporate Avenue
Cypress, California 90630

Jared Blumenfeld
Secretary for
Environmental Protection

Gavin Newsom
Governor

July 12, 2021

Tracy Roberts
Leighton
troberts@leightongroup.com

PR4-070921-06
Riverside, 376-410-015, -016, -017 & -021 & NW Corner of Clinton Keith Rd & Wildomar Trail, Wildomar

Dear Requestor:

On July 9th, 2021, the Department of Toxic Substances Control (DTSC) received your email of July 9th, 2021 requesting records under the Public Records Act. After a thorough review of our files, no site records were found pertaining to the sites/facilities referenced above.

A large number of our records are available on EnviroStor, an online database that provides non-confidential, public access to DTSCs data management system. It tracks our cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known or suspected contamination issues. EnviroStor is available 24/7, 365 days a year. The data reflects the latest updates as they are entered in the system. Access it from your computer or smartphone, the local library – anywhere Internet access is available. Just go to www.envirostor.dtsc.ca.gov. You will find a step-by-step tour of EnviroStor under the "How to Use EnviroStor" menu on the website.

If you have any questions or would like further information regarding your request, please contact me at 714.484.5336 or via email at CypressFileRoom@dtsc.ca.gov .

Sincerely,
Jone Barrio
Jone Barrio
Regional Records Coordinator

Printed on Recycled Paper

Department of Toxic Substances Control

Meredith Williams, Ph.D., Director
9211 Oakdale Avenue
Chatsworth, California 91311

Jared Blumenfeld
Secretary for
Environmental Protection

Gavin Newsom
Governor

July 14, 2021

Tracy Roberts
Leighton
troberts@leightongroup.com

Public Records Request Number: PR3-071221-02

Locations: 24850 Catt Road, Wildomar, CA 92595 / APN: 376-410-015
24900 Catt Road, Wildomar, CA 92595 / APN: 376-410-016
24940 Catt Road, Wildomar, CA 92595 / APN: 376-410-017
23980 Catt Road, Wildomar, CA 92595 / APN: 376-410-021

Dear Tracy Roberts:

On July 12, 2021, the Department of Toxic Substances Control (DTSC) received your email of July 9, 2021 requesting records under the Public Records Act. After a thorough review of our files, no site records were found pertaining to the sites/facilities referenced above.

Many of our records are available on EnviroStor, an online database that provides non-confidential, public access to DTSCs data management system. It tracks our cleanup, permitting, enforcement, and investigation efforts at hazardous waste facilities and sites with known or suspected contamination issues. EnviroStor is available 24/7, 365 days a year. The data reflects the latest updates as they are entered in the system. Access it from your computer or smartphone, the local library – anywhere Internet access is available. Just go to www.envirostor.dtsc.ca.gov. You will find a step-by-step tour of EnviroStor under the "How to Use EnviroStor" menu on the website.

If you have any questions or would like further information regarding your request, please contact me at 818-717-6521 or via email at ChatsworthFileRoom@dtsc.ca.gov.

Sincerely,

Robert Hardison
Records Mgt. Asst. Coordinator

From:	Tracy Roberts
To:	"rb9_records@waterboards.ca.gov"
Subject:	Records Request- Wildomar, CA
Date:	Friday, July 9, 2021 4:46:30 PM
Attachments:	image001.png

Hello,

Please conduct a search, and notify us of the results for any records associated with the following property:

Riverside County APNs 376-410-015, 376-410-016, 376-410-017, and 376-410-021 / Approx acres at NW corner of Clinton Keith Road and Wildomar Trail, Wildomar, CA 92595.

Thank you,

Tracy Roberts
Staff Environmental Geologist
10532 Acacia Street, Suite B-6
Rancho Cucamonga, CA 91730
o. 909-527-8774
m. 909-222-9018



Summer 2021
A fresh, new look is coming.
It's 60 years in the making.

From: RB9_Records, WB@Waterboards
To: Tracy Roberts
Subject: RE: Records Request- Wildomar, CA
Date: Friday, July 16, 2021 12:19:43 PM
Attachments: image001.png

Hello Tracy,

I was unable to locate any files based on the APNs that you provided. Is there any way that you can provide me with specific addresses? That way I can do more of a thorough search on all of our databases.

Thank You

From: Tracy Roberts <troberts@leightongroup.com>
Sent: Friday, July 9, 2021 4:46 PM
To: RB9_Records, WB@Waterboards <rb9_records@waterboards.ca.gov>
Subject: Records Request- Wildomar, CA

EXTERNAL:

Hello,

Please conduct a search, and notify us of the results for any records associated with the following property:

Riverside County APNs 376-410-015, 376-410-016, 376-410-017, and 376-410-021 / Approx acres at NW corner of Clinton Keith Road and Wildomar Trail, Wildomar, CA 92595.

Thank you,

Tracy Roberts
Staff Environmental Geologist
10532 Acacia Street, Suite B-6
Rancho Cucamonga, CA 91730
o. 909-527-8774
m. 909-222-9018



Summer 2021
A fresh, new look is coming.
It's 60 years in the making.

From:	Tracy Roberts
To:	"RB9_Records, WB@Waterboards"
Subject:	RE: Records Request- Wildomar, CA
Date:	Friday, July 16, 2021 5:11:57 PM
Attachments:	image003.png image001.png

Hello,

Thank you for the follow-up.

Yes, please add 24850 Catt Rd, 23940 Catt Rd, 23980 Catt Rd, and 24900 Catt Rd, Wildomar, CA 92595 to the request.

Best Regards,

Tracy Roberts
Staff Environmental Geologist
10532 Acacia Street, Suite B-6
Rancho Cucamonga, CA 91730
o. 909-527-8774
m. 909-222-9018

Leighton

Summer 2021
A fresh, new look is coming.
It's 60 years in the making.

From: RB9_Records, WB@Waterboards [mailto:rb9_records@waterboards.ca.gov]
Sent: Friday, July 16, 2021 12:20 PM
To: Tracy Roberts <troberts@leightongroup.com>
Subject: RE: Records Request- Wildomar, CA

Hello Tracy,

I was unable to locate any files based on the APNs that you provided. Is there any way that you can provide me with specific addresses? That way I can do more of a thorough search on all of our databases.

Thank You

From: Tracy Roberts <troberts@leightongroup.com>
Sent: Friday, July 9, 2021 4:46 PM
To: RB9_Records, WB@Waterboards <rb9_records@waterboards.ca.gov>
Subject: Records Request- Wildomar, CA

EXTERNAL:

Hello,

Please conduct a search, and notify us of the results for any records associated with the following property:

Riverside County APNs 376-410-015, 376-410-016, 376-410-017, and 376-410-021 / Approx acres at NW corner of Clinton Keith Road and Wildomar Trail, Wildomar, CA 92595.

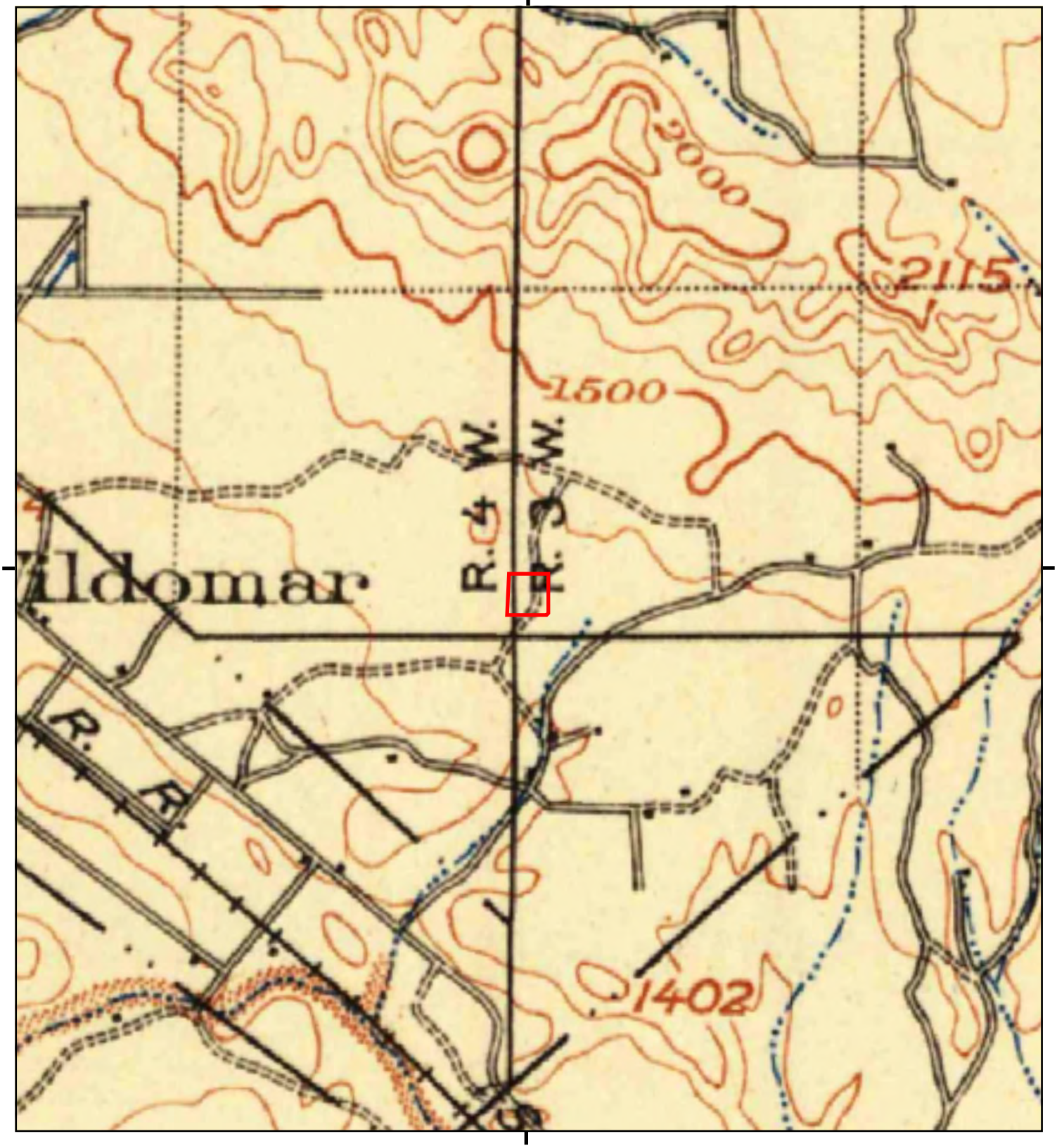
Thank you,

Tracy Roberts
Staff Environmental Geologist
10532 Acacia Street, Suite B-6
Rancho Cucamonga, CA 91730
o. 909-527-8774
m. 909-222-9018



Summer 2021
A fresh, new look is coming.
It's 60 years in the making.

Appendix G
Historical Site Usage Sources



This report includes information from the following map sheet(s).

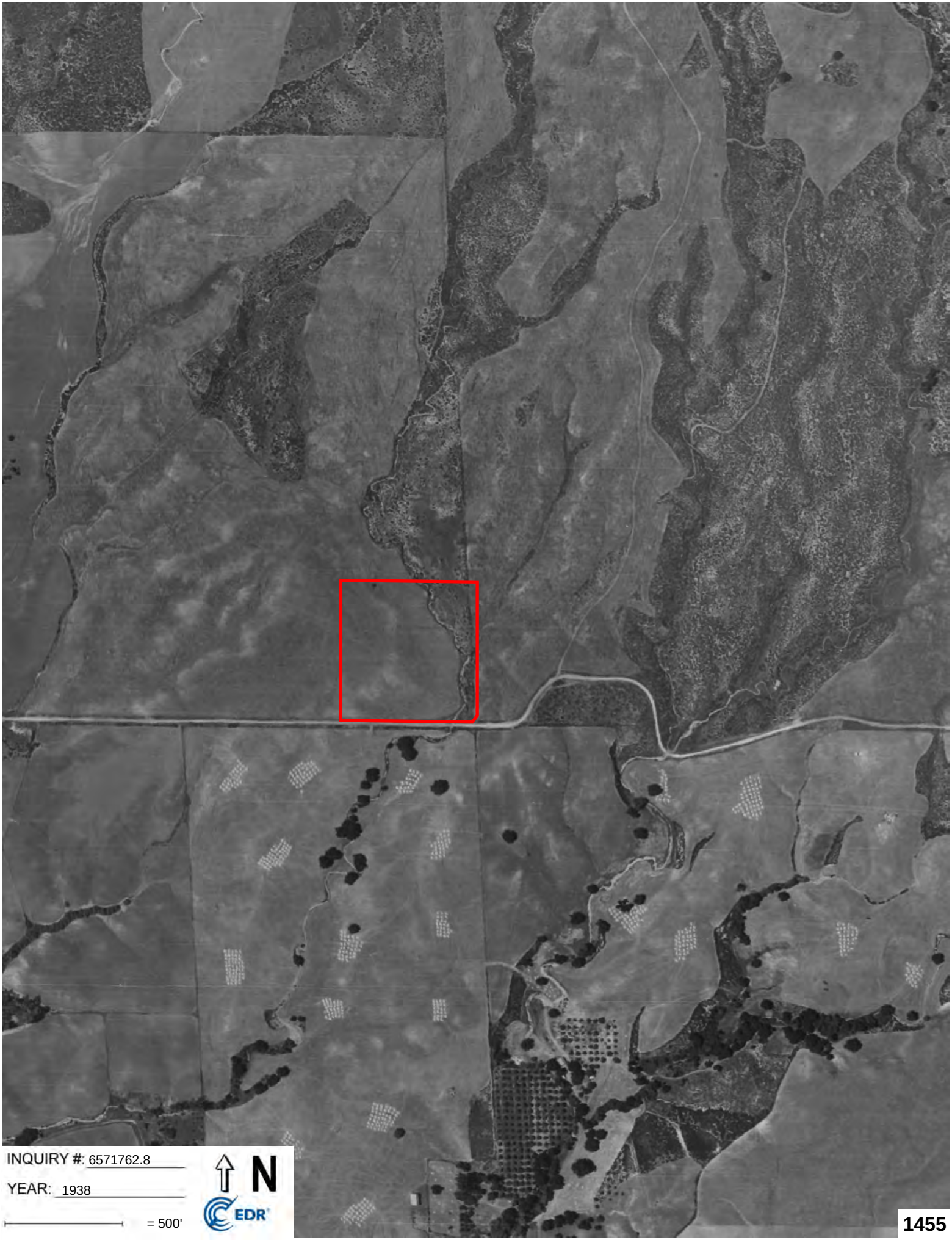
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Elsinore, 1901, 30-minute

SITE NAME: Sage Wildomar Phase I ESA
ADDRESS: NW Corner of Clinton Keith Rd and Wildo
WILDOMAR, CA 92595
CLIENT: Leighton and Associates, Inc.

N



INQUIRY #: 6571762.8

YEAR: 1938

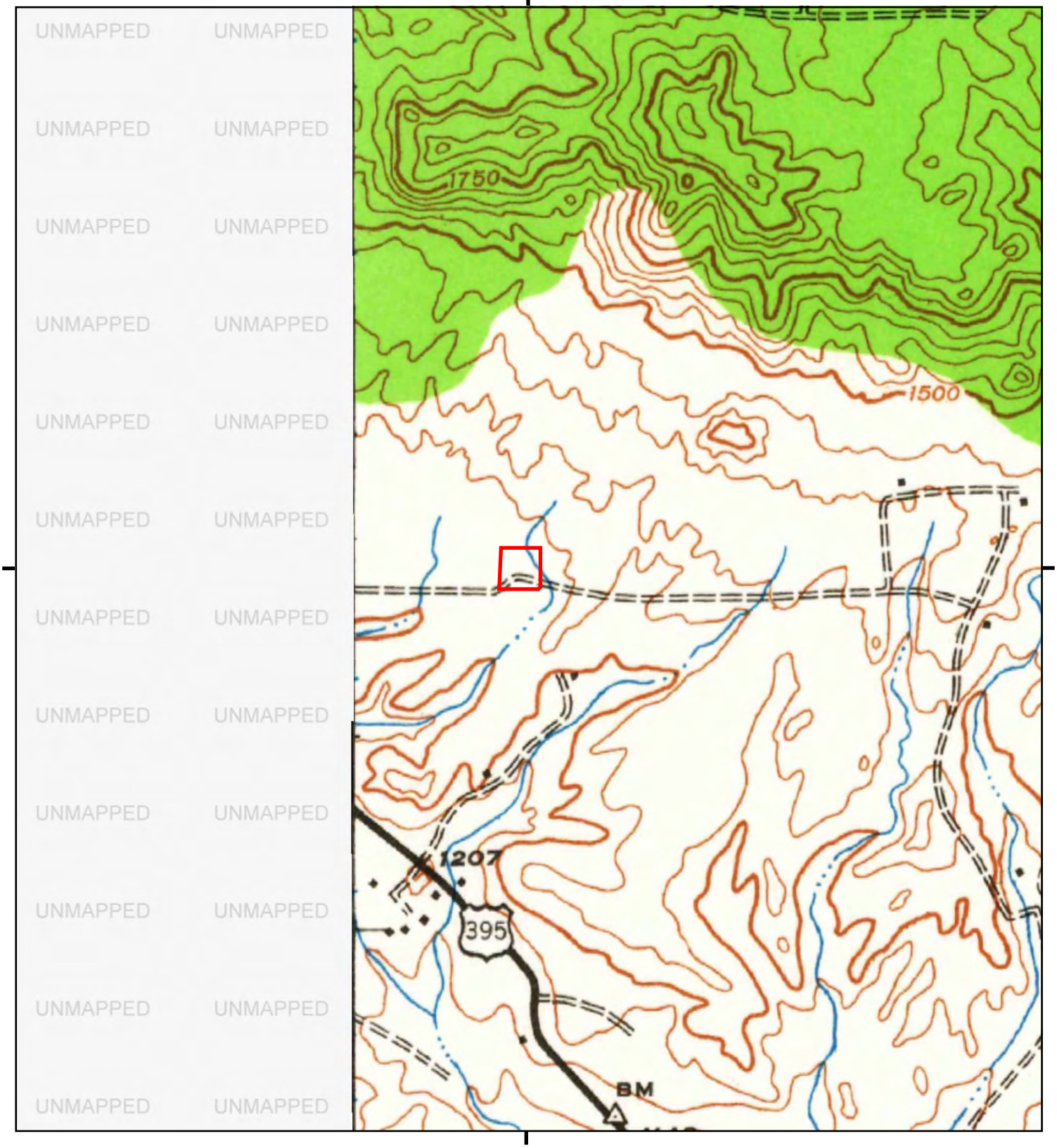
= 500'

N

EDR

Historical Topo Map

1942



This report includes information from the following map sheet(s).

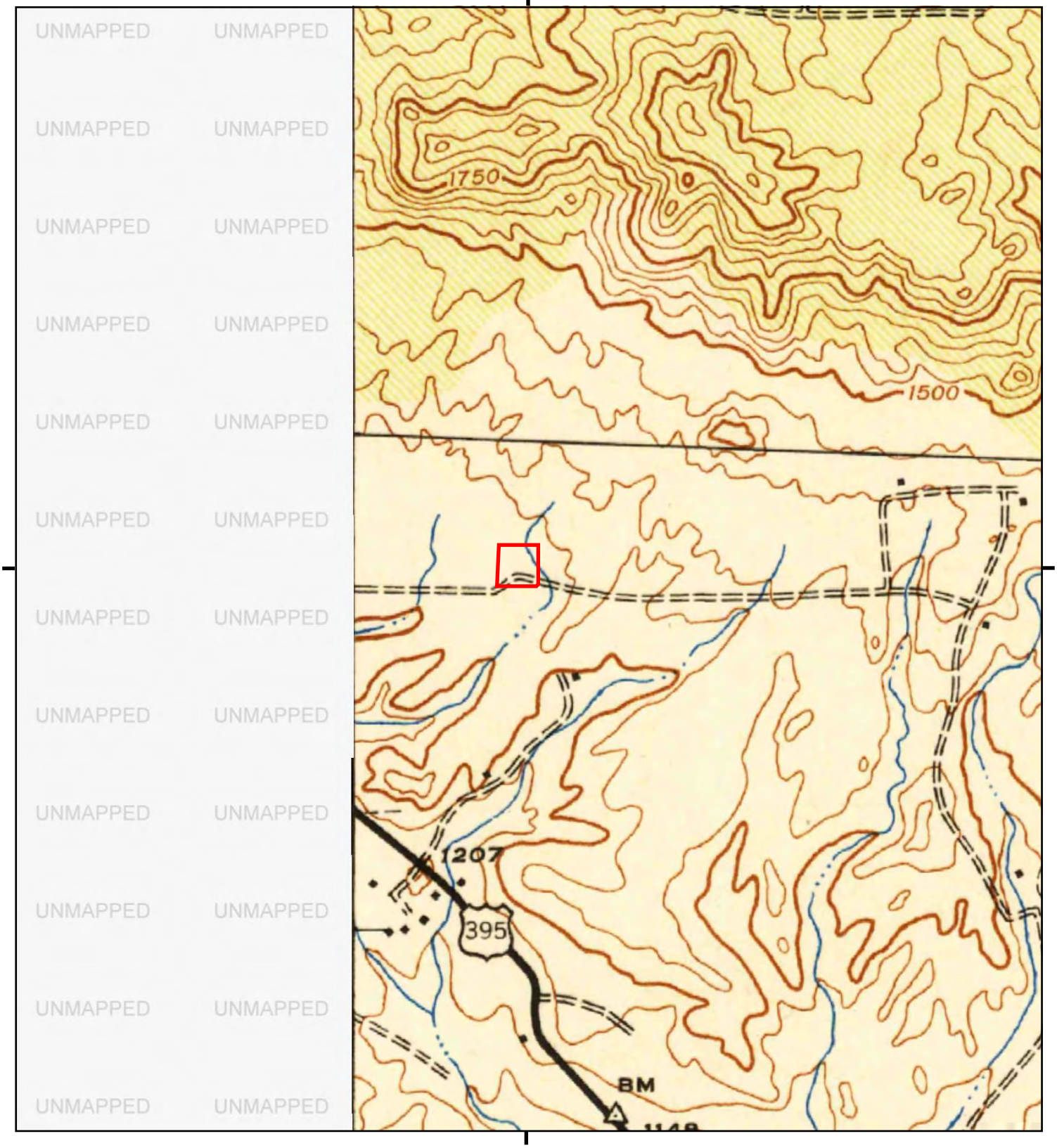
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Murrieta, 1942, 15-minute

SITE NAME: Sage Wildomar Phase I ESA
ADDRESS: NW Corner of Clinton Keith Rd and Wildo
WILDOMAR, CA 92595
CLIENT: Leighton and Associates, Inc.

N



This report includes information from the following map sheet(s).

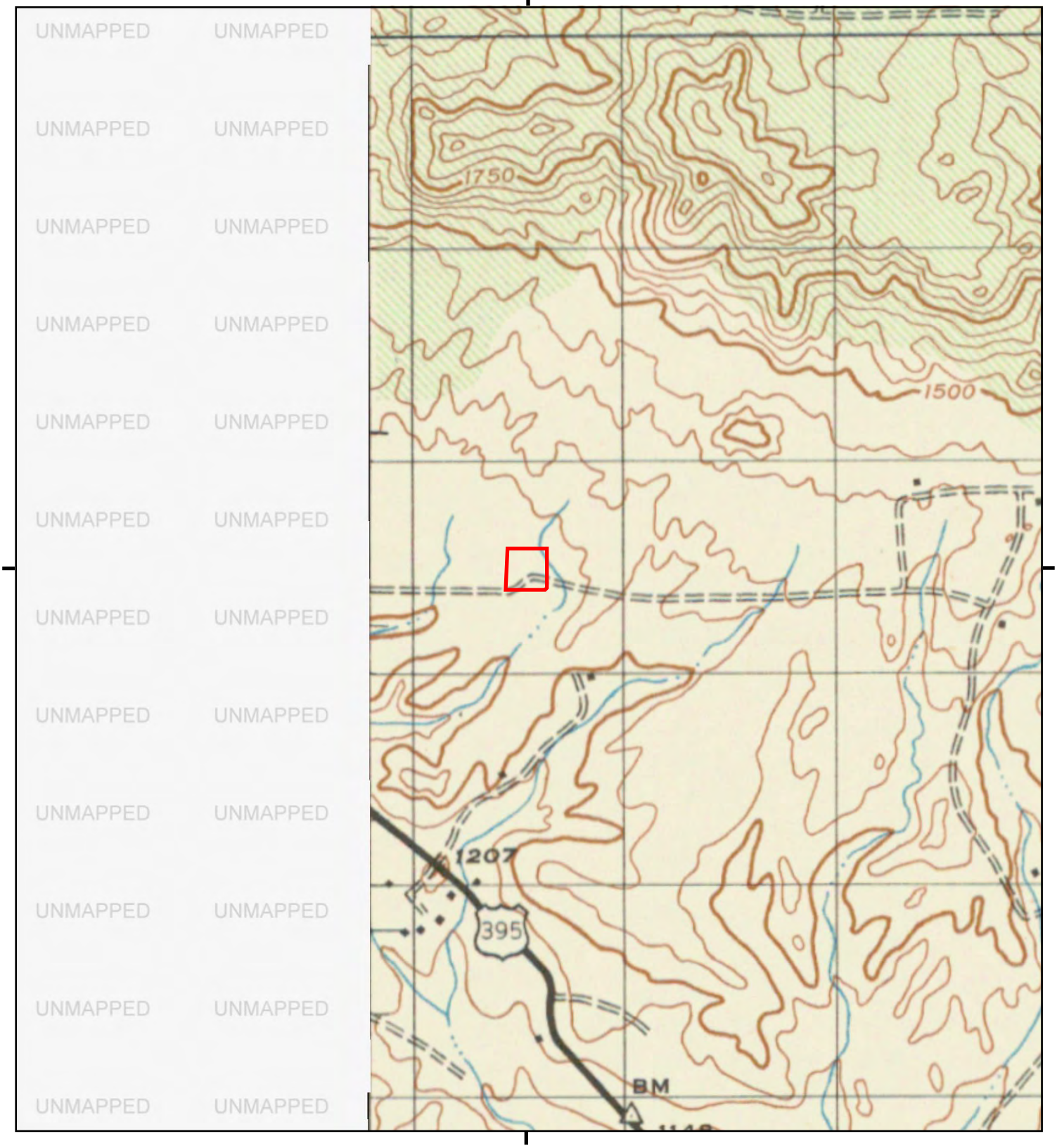
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Murrieta, 1943, 15-minute

SITE NAME: Sage Wildomar Phase I ESA
ADDRESS: NW Corner of Clinton Keith Rd and Wildo
WILDOMAR, CA 92595
CLIENT: Leighton and Associates, Inc.

N



This report includes information from the following map sheet(s).

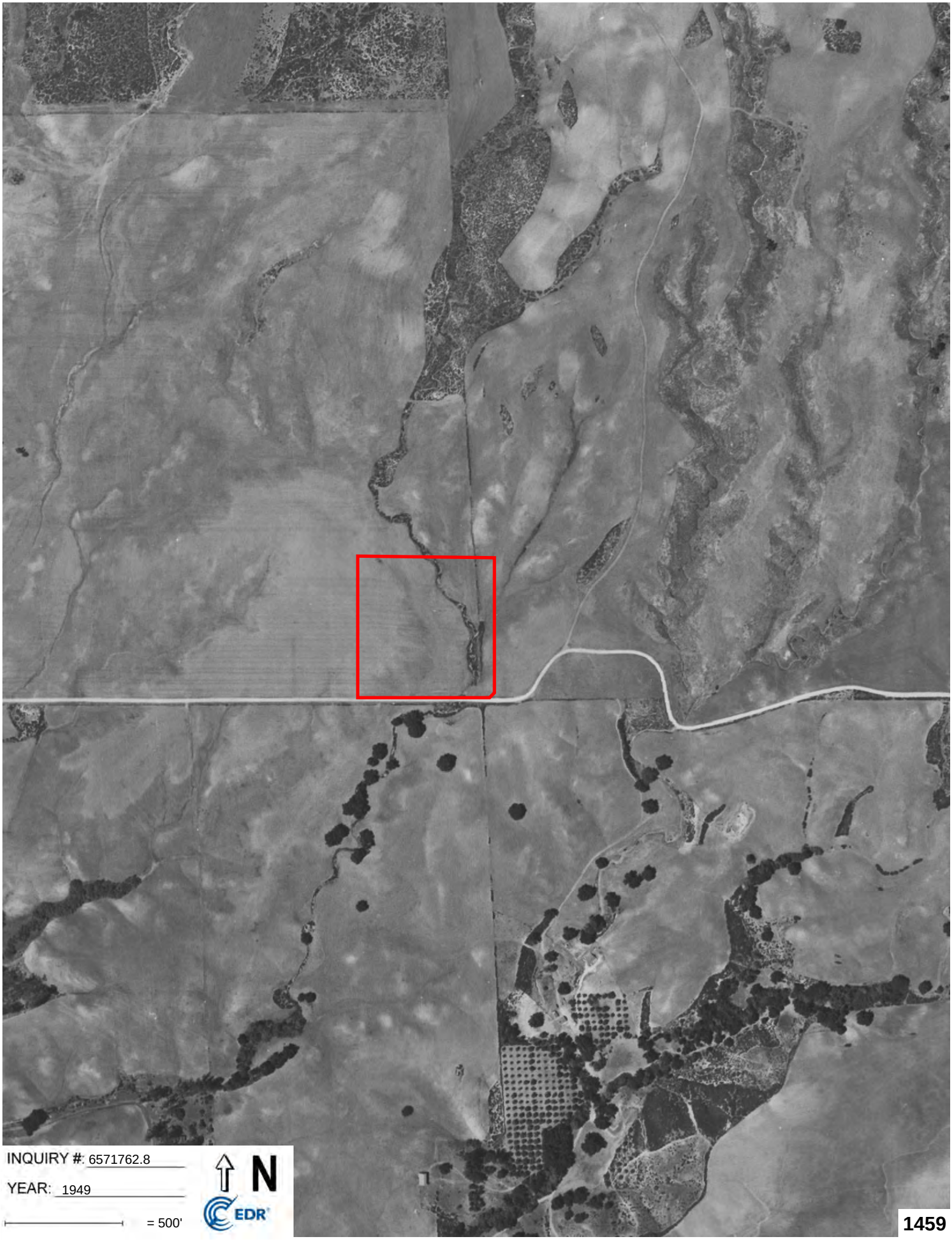
0 Miles 0.25 0.5 1 1.5

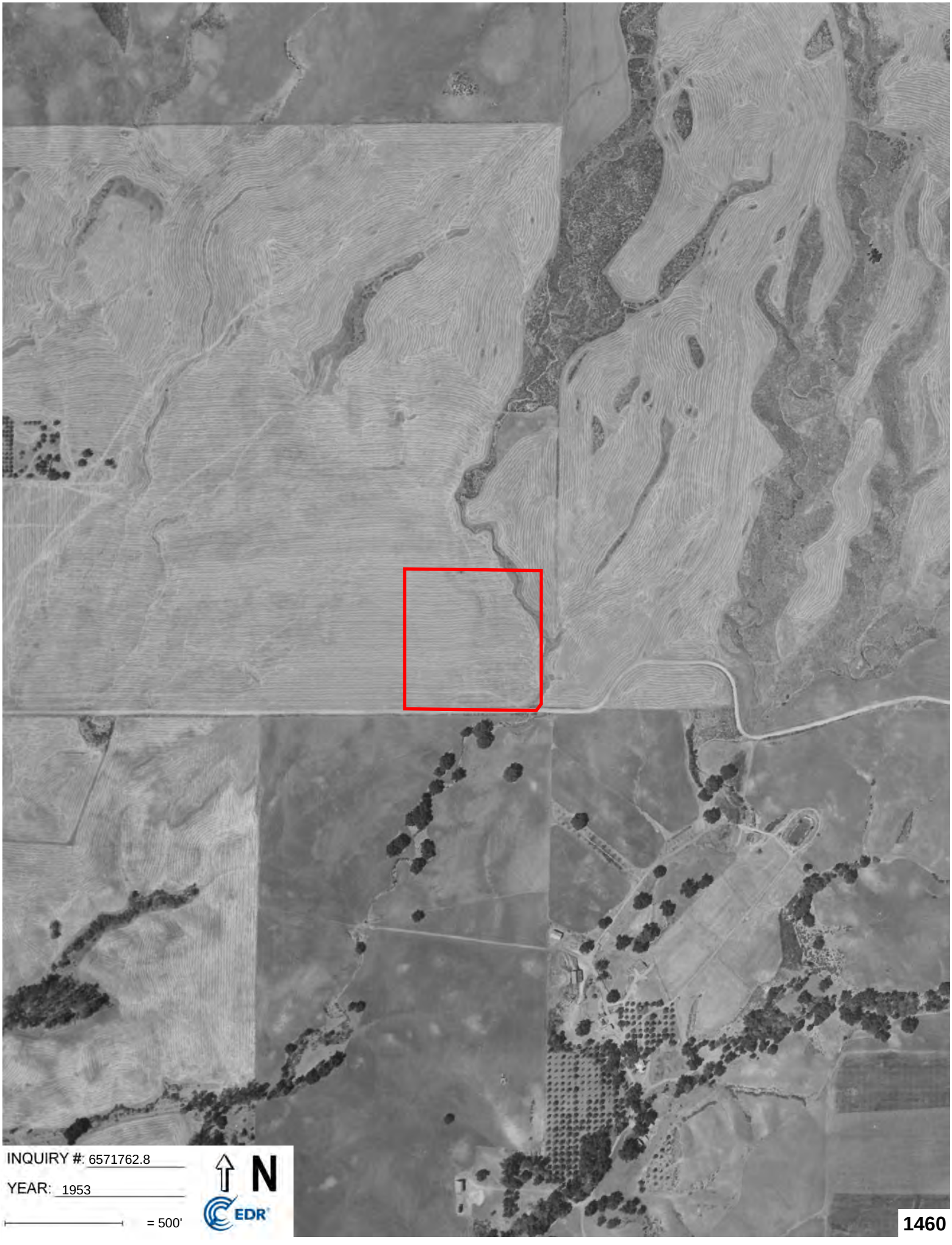
NW N NE
W E
SW S SE

TP, MURRIETA, 1947, 15-minute

SITE NAME: Sage Wildomar Phase I ESA
ADDRESS: NW Corner of Clinton Keith Rd and Wildo
WILDOMAR, CA 92595
CLIENT: Leighton and Associates, Inc.

N


INQUIRY #: 6571762.8
YEAR: 1949
= 500'
N
EDR



INQUIRY #: 6571762.8

YEAR: 1953

= 500'

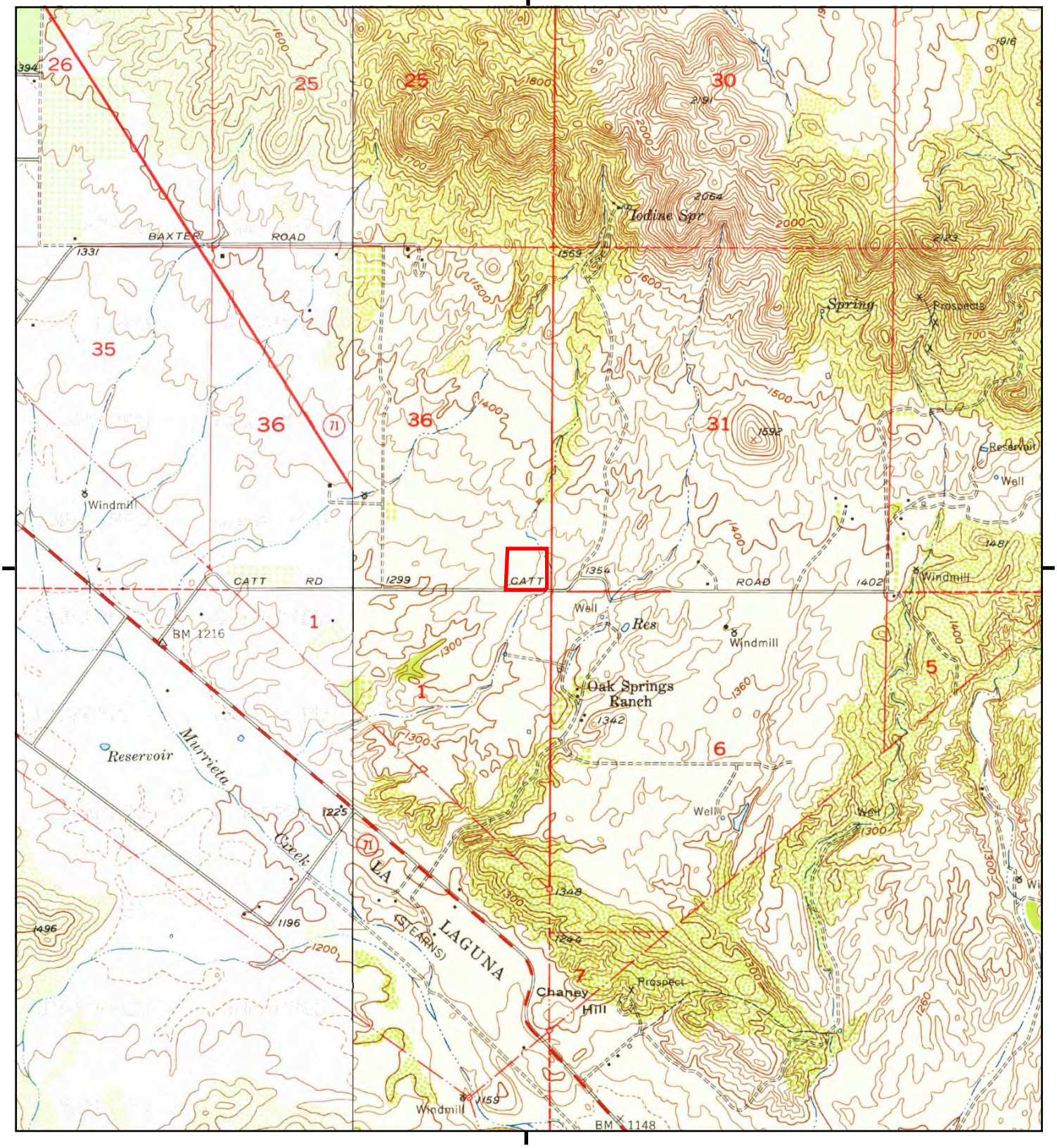
N

EDR

1460

Historical Topo Map

1953



This report includes information from the following map sheet(s).

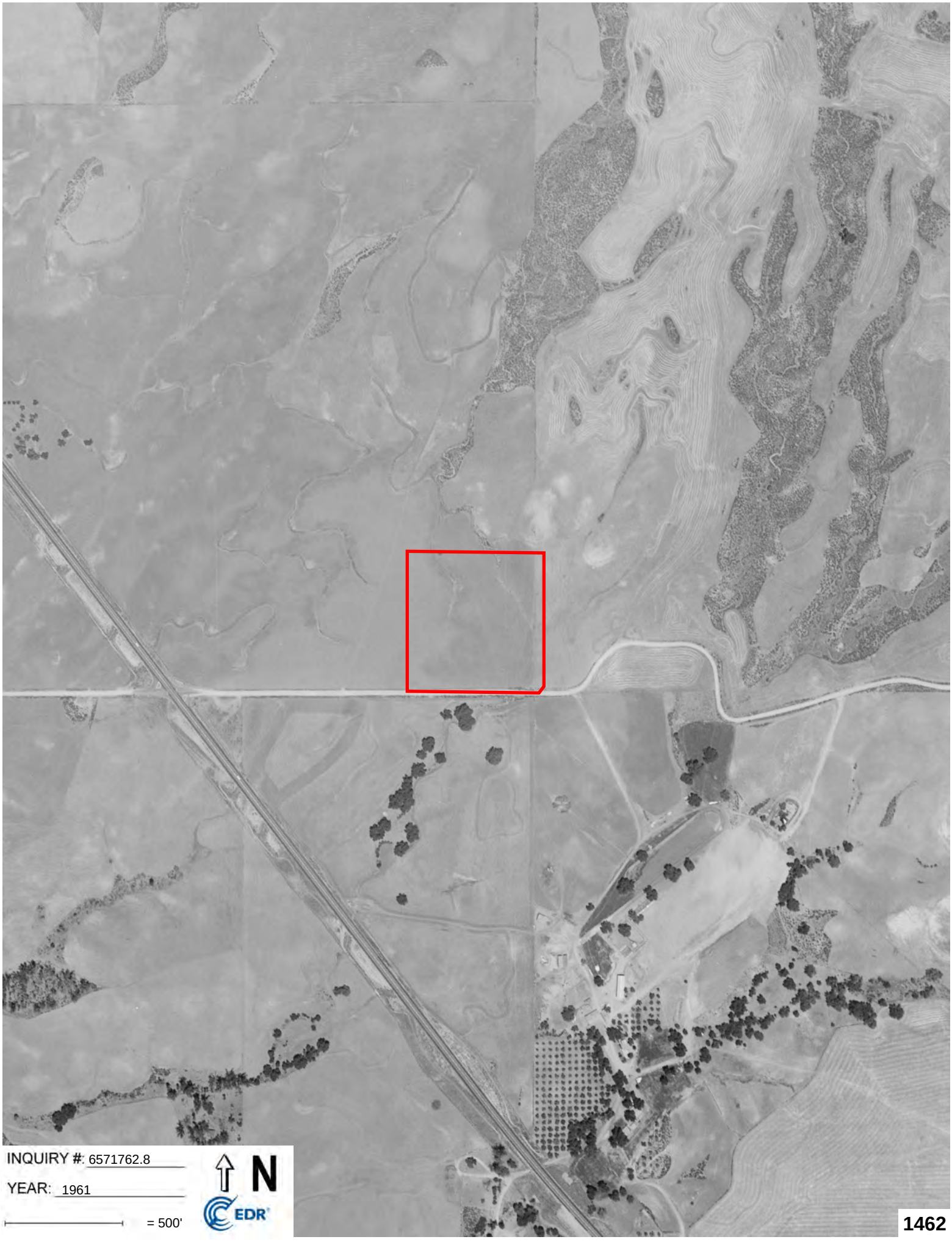
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Murrieta, 1953, 7.5-minute
SW, Wildomar, 1953, 7.5-minute

SITE NAME: Sage Wildomar Phase I ESA
ADDRESS: NW Corner of Clinton Keith Rd and Wildo
WILDOMAR, CA 92595
CLIENT: Leighton and Associates, Inc.

N



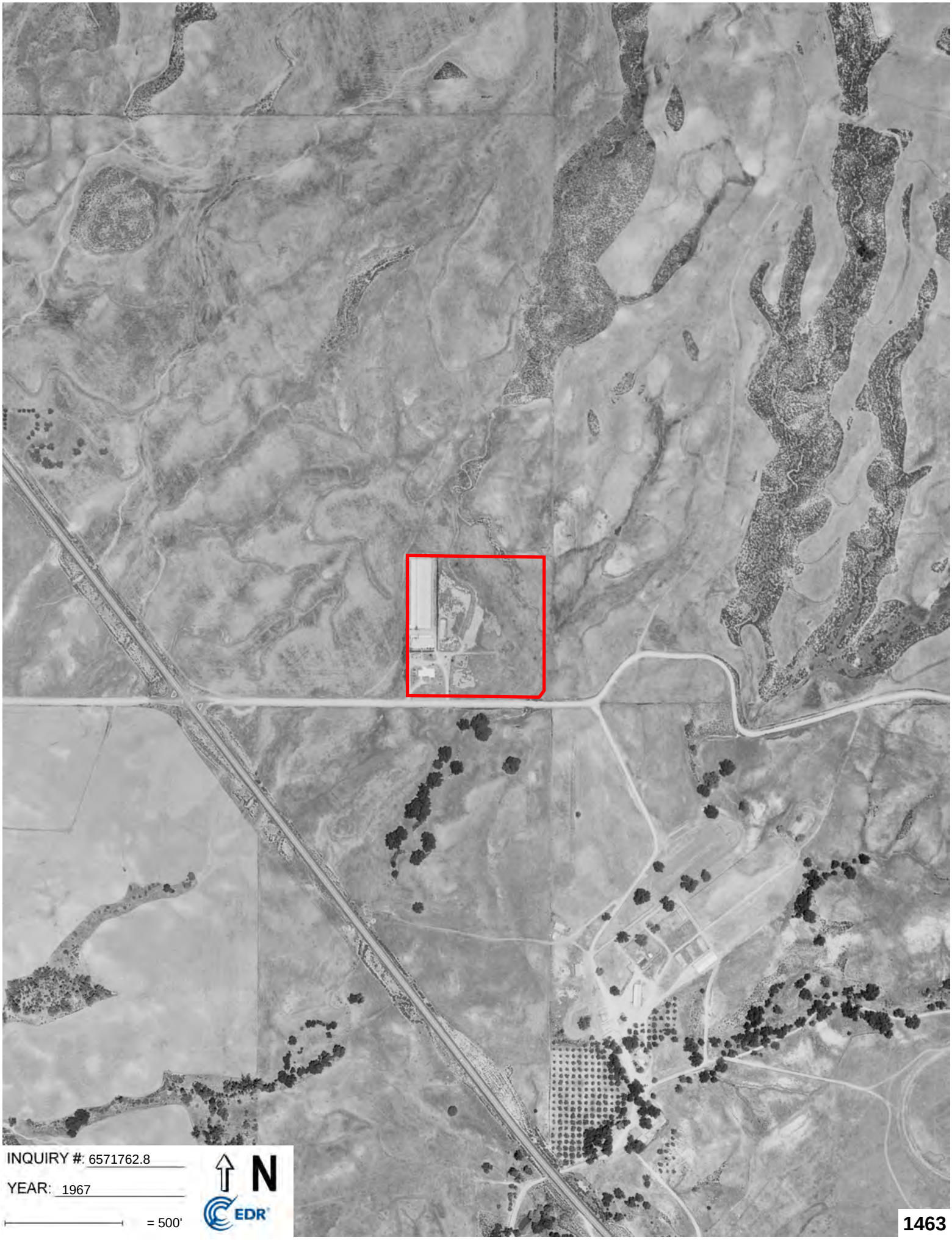
INQUIRY #: 6571762.8

YEAR: 1961

= 500'

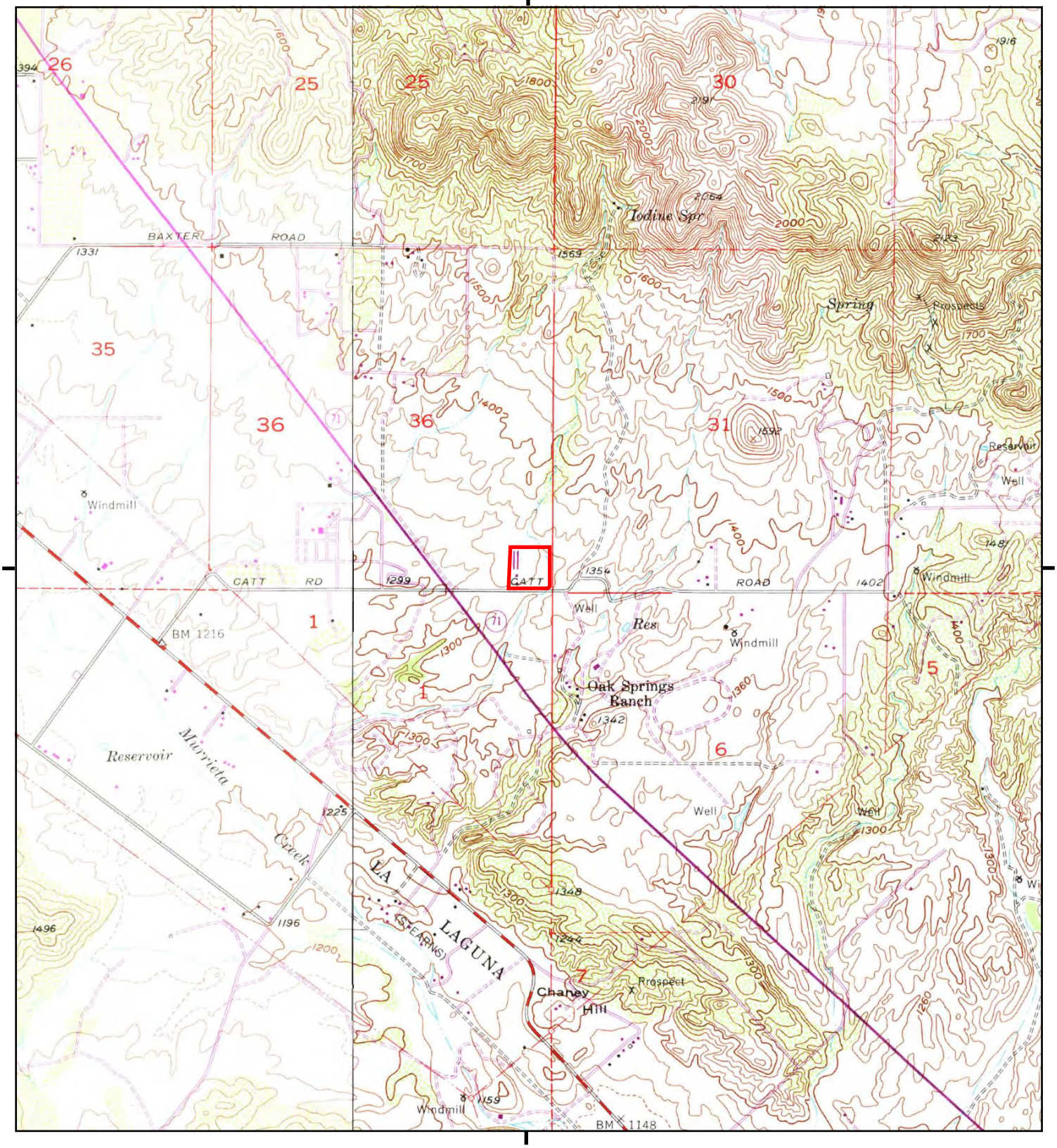
N

EDR


INQUIRY #: 6571762.8
YEAR: 1967
= 500'
N
EDR

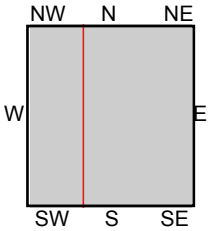
Historical Topo Map

1973



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5



TP, Murrieta, 1973, 7.5-minute
SW, Wildomar, 1973, 7.5-minute

SITE NAME: Sage Wildomar Phase I ESA
ADDRESS: NW Corner of Clinton Keith Rd and Wildo
WILDOMAR, CA 92595
CLIENT: Leighton and Associates, Inc.

N



INQUIRY #: 6571762.8

YEAR: 1974

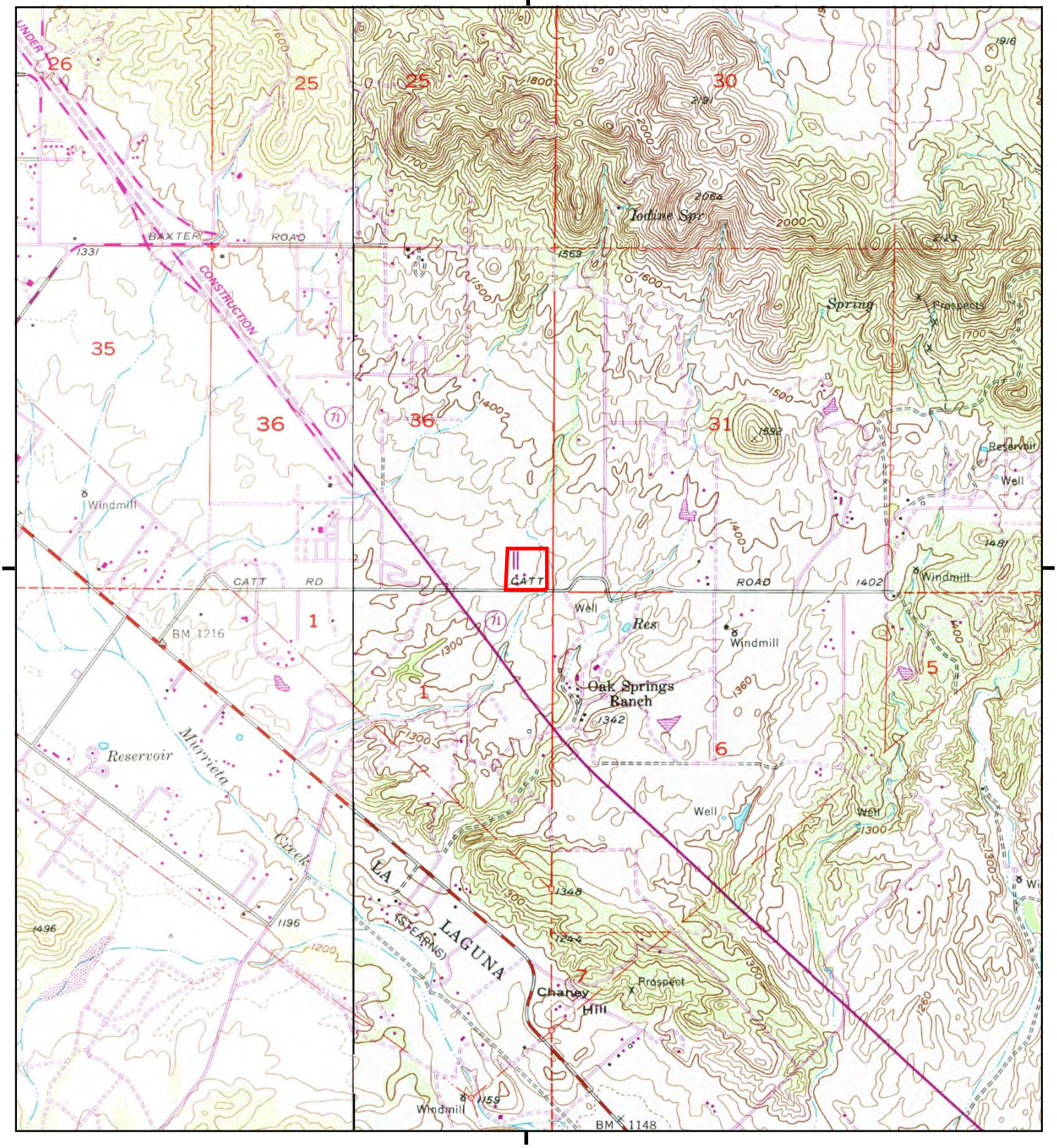
= 500'

N

EDR

1465


INQUIRY #: 6571762.8
YEAR: 1978
= 500'
N
EDR



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Murrieta, 1979, 7.5-minute
SW, Wildomar, 1982, 7.5-minute

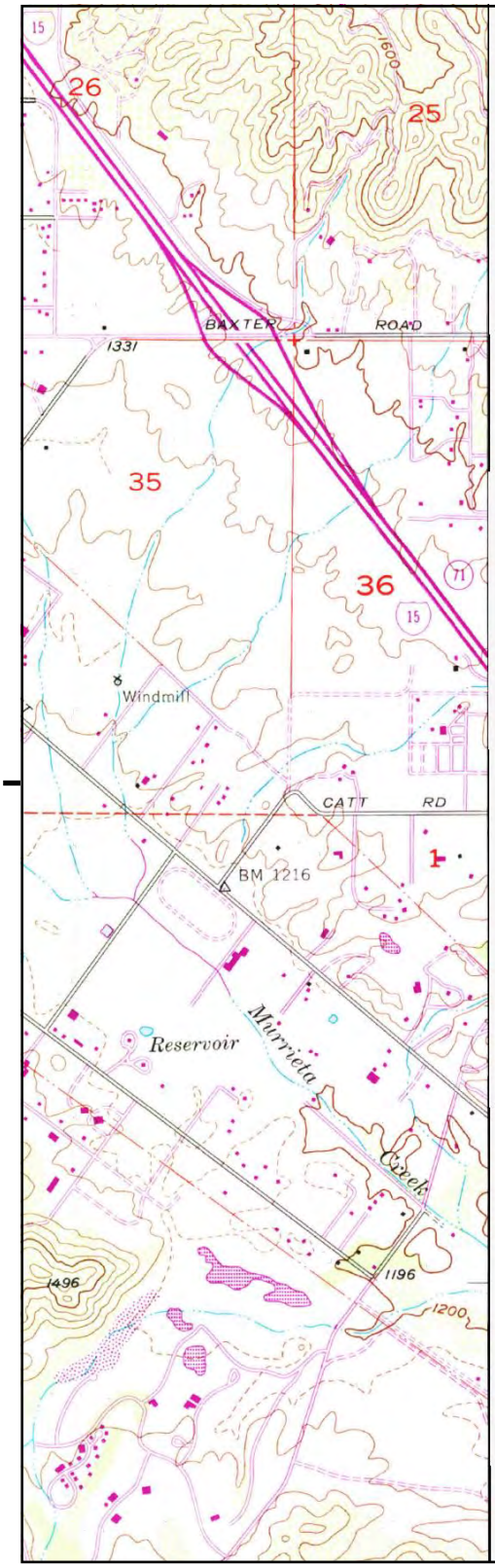
SITE NAME: Sage Wildomar Phase I ESA
ADDRESS: NW Corner of Clinton Keith Rd and Wildo
WILDOMAR, CA 92595
CLIENT: Leighton and Associates, Inc.

N


INQUIRY #: 6571762.8
YEAR: 1985
= 500'
N
EDR

Historical Topo Map

1988



UNMAPPED

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

SW, Wildomar, 1988, 7.5-minute

SITE NAME: Sage Wildomar Phase I ESA
ADDRESS: NW Corner of Clinton Keith Rd and Wildo
WILDOMAR, CA 92595
CLIENT: Leighton and Associates, Inc.

N

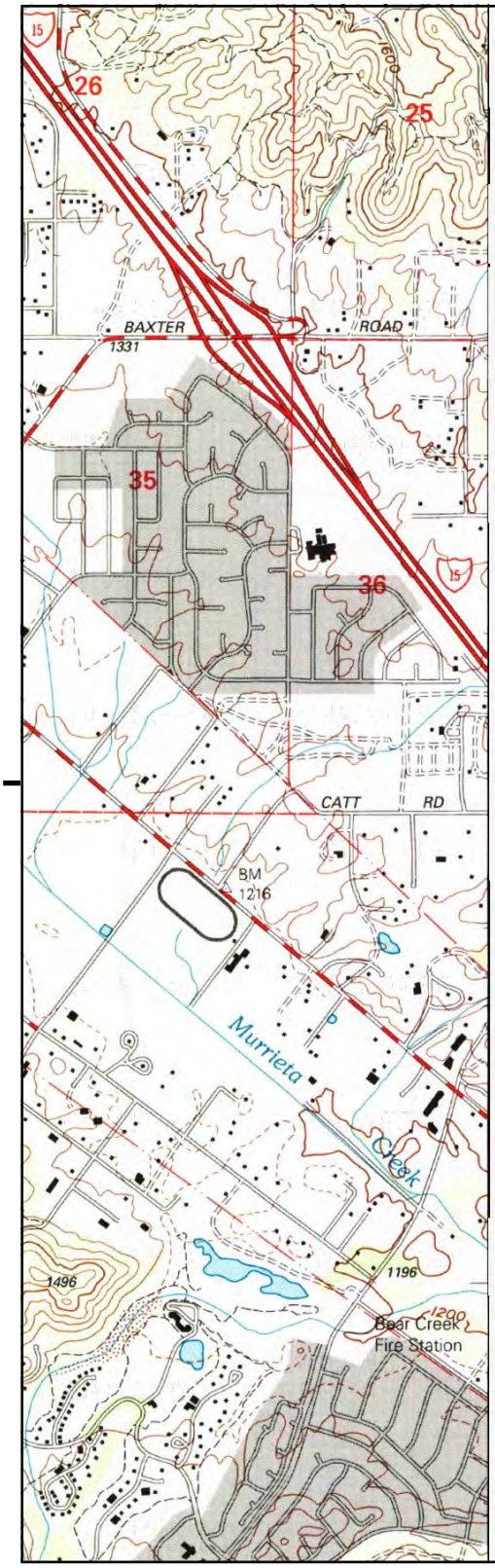

INQUIRY #: 6571762.8
YEAR: 1989
= 500'
N
EDR


INQUIRY #: 6571762.8
YEAR: 1996
= 500'
N
EDR


INQUIRY #: 6571762.8
YEAR: 1997
= 500'
N
EDR

Historical Topo Map

1997



UNMAPPED

This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

SW, Wildomar, 1997, 7.5-minute

SITE NAME: Sage Wildomar Phase I ESA
ADDRESS: NW Corner of Clinton Keith Rd and Wildo
WILDOMAR, CA 92595
CLIENT: Leighton and Associates, Inc.

N


INQUIRY #: 6571762.8
YEAR: 2002
= 500'
N
EDR

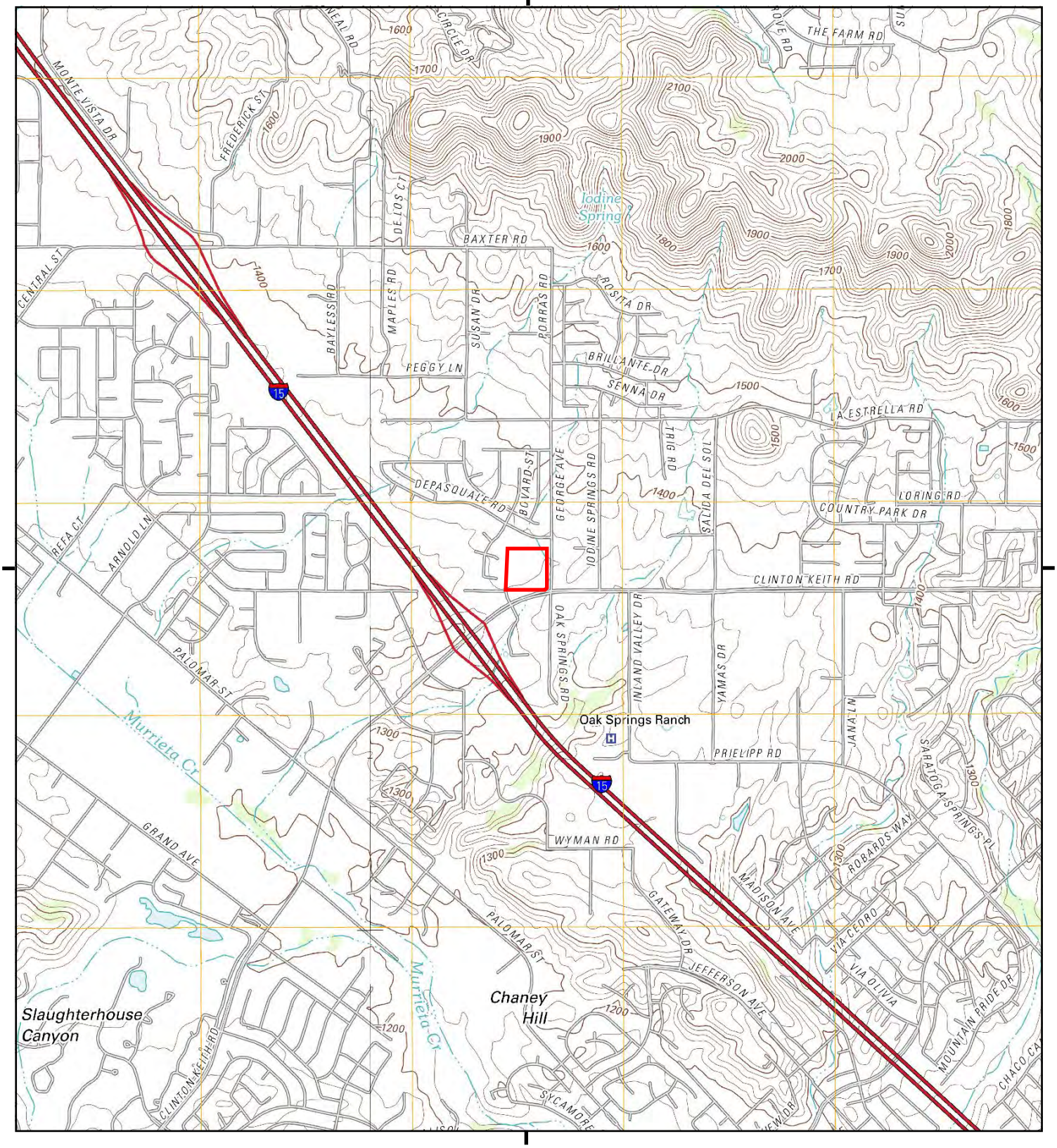

INQUIRY #: 6571762.8
YEAR: 2006
= 500'
N
EDR


INQUIRY #: 6571762.8
YEAR: 2009
= 500'
N
EDR


INQUIRY #: 6571762.8
YEAR: 2012
= 500'
N
EDR

Historical Topo Map

2012



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Murrieta, 2012, 7.5-minute
SW, Wildomar, 2012, 7.5-minute

SITE NAME: Sage Wildomar Phase I ESA
ADDRESS: NW Corner of Clinton Keith Rd and Wildo
WILDOMAR, CA 92595
CLIENT: Leighton and Associates, Inc.

N


INQUIRY #: 6571762.8
YEAR: 2016
= 500'
N
EDR

Certified Sanborn® Map Report

07/12/21

Site Name:

Sage Wildomar Phase I ESA
NW Corner of Clinton Keith Rd
WILDOMAR, CA 92595
EDR Inquiry # 6571762.3

Client Name:

Leighton and Associates, Inc.
17781 Cowan
Irvine, CA 92614
Contact: Tracy Roberts

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Leighton and Associates, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 3403-4BC9-885B

PO # NA

Project 13158.002

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 3403-4BC9-885B

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

Limited Permission To Make Copies

Leighton and Associates, Inc. (the client) is permitted to make up to FIVE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2021 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc., or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

Sage Wildomar Phase I ESA

NW Corner of Clinton Keith Rd and Wildomar Trail

WILDOMAR, CA 92595

Inquiry Number: 6571762.3

July 12, 2021

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Sage Wildomar Phase I ESA
NW Corner of Clinton Keith Rd and Wildomar Trail
WILDOMAR, CA 92595

Inquiry Number: 6571762.5
July 14, 2021

The EDR-City Directory Image Report

Environmental Data Resources Inc
6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.

Data by
infoUSA®
Copyright©2008
All Rights Reserved

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2017	☑	☐	EDR Digital Archive
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
2000	☑	☐	EDR Digital Archive
1995	☑	☐	EDR Digital Archive
1992	☑	☐	EDR Digital Archive
1985	☑	☐	Haines Criss-Cross Directory
1980	☑	☐	Haines Criss-Cross Directory
1976	☐	☐	Haines Criss-Cross Directory
1971	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

NW Corner of Clinton Keith Rd and Wildomar Trail
WILDOMAR, CA 92595

Year	*CD Image*	*Source*	
CLINTON KEITH RD			
2017	pg A2	EDR Digital Archive	
2014	pg A10	EDR Digital Archive	
2010	pg A14	EDR Digital Archive	
2005	pg A17	EDR Digital Archive	
2000	pg A20	EDR Digital Archive	
1995	pg A21	EDR Digital Archive	
1992	pg A22	EDR Digital Archive	
1985	pg A23	Haines Criss-Cross Directory	
1980	pg A24	Haines Criss-Cross Directory	
1976	-	Haines Criss-Cross Directory	Street not listed in Source
1971	-	Haines Criss-Cross Directory	Street not listed in Source
WILDOMAR TRL			
2017	-	EDR Digital Archive	Target and Adjoining not listed in Source
2014	-	EDR Digital Archive	Target and Adjoining not listed in Source
2010	-	EDR Digital Archive	Target and Adjoining not listed in Source
2005	-	EDR Digital Archive	Target and Adjoining not listed in Source
2000	-	EDR Digital Archive	Target and Adjoining not listed in Source
1995	-	EDR Digital Archive	Target and Adjoining not listed in Source
1992	-	EDR Digital Archive	Target and Adjoining not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1980	-	Haines Criss-Cross Directory	Street not listed in Source
1976	-	Haines Criss-Cross Directory	Street not listed in Source
1971	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 2017

23805	CHEVRON
	STARBUCKS COFFEE
23819	MCDONALDS
23823	COLDWELL BANKER
	STARBUCKS
	STARBUCKS COFFEE
	VSHS LLC
23857	DENNYS
23861	PANDA EXPRESS
	STRATA OAK LIEC
	STRATA, OAK
23865	LOS REYES BAR & GRILL
	SPRINT
	STRATA OAK LLC
23873	COMMUNITY HEALTH CARE PLAN
	EDWARD JONES
	GLJ BUILDERS WEST
	OAK CREEK CENTER
23877	FITNESS 19
	OAK CREEK MALL
23881	WILDOMAR ACE HARDWARE
23885	H&R BLOCK
	HRB, R
	MASSAGE ENVY
23893	ALBERTSONS
	REDBOX
	SAVON DRUGS
	SUPERVALU
	US BANK
23905	BRYAN WATANABE DDS
	CALREDA TATTOO
	CLINTON KEITH DENTAL GROUP
	CONTRACTORS CALIFORNIA
	DANDY MAILBOXES PLUS
	DIRECT GLOBAL
	DONAHUE CHIROPRACTIC
	EBERSHINE THREADING
	FANTASTIC SAMS
	FANTASTIC SAMS CUT & COLOR
	GOLDEN SPOON FROZEN YOGURT
	GUARDIAN PLUMBERS
	HARDEM TRANSPORT INC
	I TAN
	JURY MARK OD
	JURY MARK OD FAAO
	K&B ELECTRIC LLC
	LAKELAND FINANCIAL INC
	MARK JURY OD
	NAIL PALACE
	OPTOMETRIC VISION EXPERIENCE

CLINTON KEITH RD 2017 (Cont'd)

23905	PARKER BRIAN L OD
	PROMPT CLEANERS
	SAKSHI SMOKE SHOP
	SHEAR ENVY
	SUBWAY
	TRI VALLEY APPLIANCE SERVICE
	VSHS LLC
	WABA GRILL
	WABA GRILL WILDOMAR
	WESTCOAST PHYSICIANS SERVICES
23937	OLD MARKET GRILL LLC
23971	LOS JILBERTOS TACO SHOP
	TEAKWOODS
23983	SAVON DRUGS
24055	ABDULLAH, RAHIM R
	ADOLPHUS, BEVERLY
	AFFORDABLE FLOORS
	ALLEN, ADRIAN J
	ARAOS, TARYN D
	ARBOLEDA, CARLOS M
	ARZOLA, LIZAN S
	ASHTON, JASON
	ATKINSON, PAMELA G
	BAILEY, CHRISTIAN
	BALSTER, AMANDA
	BARBER, GERALD
	BARBOSA, VICTOR
	BARKER, LUANN T
	BARRIOS, JOSE M
	BATIZ, ANDREA
	BAWDON, GREGORY L
	BEADLESTON, TRACY
	BEDDEH, CHRISTINA
	BENNETT, DAVID M
	BISTOCCHI, MICHAEL A
	BLANTON, BECCA
	BOISVERT, REAL J
	BONALES, JESSIE
	BONDAR, ORION
	BRAND, RAUL
	BRAZELTON, BRIAR M
	BUCKLEY, SEAN P
	BUECHL, JOSEPH J
	BURKETT, NATHAN S
	BURNS, MERCEDES
	CAHILL, KATHY
	CALIP, RANDY M
	CAMPBELL, DANAE
	CARLSON, JACK G
	CARVAJAL, RICARDO F

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 2017 (Cont'd)

24055 CASTRO, ASHLEY
CATHEY, CANDACE
CEPEDA, JOHN
CER, M
CHANDLER, BRIANNA L
CHANG, JI
CHATA, SANDRA
CHAVEZ, JOSE
CHUNG, JIN
CISNEROS, ALEJANDRO S
CLINGMAN, SPENCER
COBOS, LINDA D
COLBERT, PATRICE
COLE, RON
COLEMAN, ROSHUNDA M
COLLINS, BRIAN
COOMBS, ALICIA D
CORDOVA, SHELLEY
CORONEL, JORDAN
CRENSHAW, BETTY R
CROFT, NIGEL C
CYHAN, ADAM
DAMIANOS, JOHN
DEBOER, HANNAH
DOERRE, JULIE A
DOTSON, AARON
DROHAN, JESSICA N
DRZEMIECKI, MARK E
DUGAN, DENISE
DULAY, JOEMARC
DUNCAN, JOSEPH
DURMUS, GULBIN
ENGBERSON, PAUL
ERBECK, STEVEN
ESPINOLA, ALEX C
EVANS, MARYANN A
FARIS, DEVORA
FRASOR, CHARLES K
FRAZIER, CHASE
GAINES, ANTHONY
GARCIA, MARCOS
GARRETT, CREAVONE
GENTILE, MARY C
GERONILLA, RYAN J
GONZALEZ, RAFAEL
GOODMAN, DANIELLE
GRASSMEIER, RACHELLE
GRAVES, ALEXA
HACKETT, SHAWN
HALL, KEVIN B

CLINTON KEITH RD 2017 (Cont'd)

24055 HANSHAW, GORDON R
HART, MANERVA
HAWK, DARRELL C
HERNANDEZ, ANDREA
HERNANDEZ, LORI L
HERNANDEZ, TORREY
HERRINGTON, GREGORY B
HERRINGTON, MICHELLE A
HESTERKAMP, JULIA
HILL, ANDREA
HORNE, BRANDON C
HOUSEMAN, SANDY J
HUNT, BRIAN M
JAZAERLI, SAM
JENNER, ELLIOTT J
JENSON, MITCHELL
JOHNSON, HENRY
JONES, ALBERT S
JONES, LISA
JOROMAT, MICHAEL
KAPP, CHRISTINA M
LAKE, MARK A
LANGE, BRANDON
LARHONDA, AUSTIN
LATIMER, JOHN T
LEDESMA, JUDITH
LIN, TZUCHI
LINE, JOSHUA B
LUGT, PETER
LUKE, BRANDON
LYNCH, C
MACIAS, KYLE
MACKEY, PARKER
MALIK, UZMA M
MALLORY, THEODORE R
MANNING, KAY K
MCCARTHY, CHELSEA
MCCAULEY, CYNTHIA P
MCCOLLOUGH, KENNETH B
MCFARLIN, CHELSEY
MCNELIS, E
MEARS, LINDA
MEDELLIN, SAID T
MEIER, ALYSSA
MENDOZA, SAMUEL
MESSER, REBECCA
MIAO, YINGFENG
MIDDLETON, AUSTIN T
MILAN, KRYSTLE
MILANO, JESSICA

CLINTON KEITH RD 2017 (Cont'd)

24055 MULDREW, ASIA
MUNOZ, DAVID
MURPHY, DONNA
MURPHY, MATTHEW S
NEWELL, KELEY
NITTLER, TAYLOR
NOLAN, GABRIELLA
NORMAN, CHARLES L
NORMAN, JESICA
NORRIS, KIM
NUNEZ, DANIEL G
OAK SPRINGS RANCH LLC
OAKS SPRINGS RANCH LLC
OLIVAS, MEGAN
ORTIZ, ANDREW
OSTOS, A
PALESANO, JEFFREY R
PALZOLA, FRANCISCO
PARAGANA, VIOLETA
PATEL, BHARAT K
PATEL, SHILPA
PATINO, BRENDA
PAZZI, ASHLEY
PEAKE, MEGHAN R
PEDROSO, DANIELLE
PEREZ, CHRISTOPHER A
PEREZ, JULISA
PERRY, WILLIAM
PLANCHON, CRISTINA
POTTER, HEATHER
POWELL, KRISTINA M
PRESTON, AMANDA
PRICE, MONTAY
PRIETO, DANA R
PROCTOR, STEVEN F
PUSHAW, LAURA
RAMIREZ, MARK
REEVES, APRIL
REYESJR, RICHARD
REYNOLDS, ANDREW M
RICKS, BARRY J
RIEDL, SHERYL L
RIVERA, NANCY
ROBBINS, GUY O
ROBSON, JONATHAN
RODRIGUEZ, ROBERTO
RUIZ, ALYSSA
RUKASIN, MONIQUE A
RUNION, SARA L
RUSHLOW, JASON M

CLINTON KEITH RD 2017 (Cont'd)

24055 SALCIDO, ALEC
SALDIVAR, JESSICA M
SANGALANG, ERICK
SCOTT, KRISTEN N
SEIDENBERG, MARK R
SENIOR, MITCHTORIA A
SHANDIZ, NADER T
SHANNEP, MARC D
SHARFNER, BRANDON
SHEEHAN, MADISON
SIAL, SAEMA S
SID, D
SILER, HOLLY M
SIZEMORE, SUSAN
SMITH, CHERYL E
SOUTH, CHRIS
SPERLING, TAYLOR A
STEPHENSON, BONNIE
STOENESCU, EMANUEL S
STOIA, CHRISTOPHER
STOLARSKI, ANDREA M
SUMMERS, LOUISE
TAFOYA, TROY
TALAVERA, DEREK
TALLCHIEF, KENNETH F
TAYLOR, JANOS
TAYLOR, MARK W
THAYNE, DUSTIN J
THINR, TERRY
THOMAS, TIMOTHEOUS
THOMPSON, ALLEN
THOMPSON, LEILANI C
TOPETE, ALEJANDRA M
TRAN, MICHAEL T
TROUTMAN, FORREST
TSCHANNEN, LINDA C
TSUCHIMOTO, MIE
VALENZUELA, DEBBIE F
VALLES, ALEJANDRA
VANDERMATEN, TRACEY
VARKER, KRISTIAN
VEGA, OLGA
VESPER, NICHOLE
VINCENT, JIM C
VONNER, ERIC
WALTERS, DOUGLAS
WARDLAW, CAYLIE
WELLS, COLLEEN H
WELLS, DONNY
WELSH, DEANNA N

CLINTON KEITH RD 2017 (Cont'd)

24055	WHELTON, JORDAN
	WHISENAND, JOE
	WHITE, NICOLE F
	WILLIAMS, LARRY G
	WILLIAMS, MAGHAN
	WOLFE, TOMOKO
	WOODLAND, TRENEIR C
	YAPI, JUSTINE V
	YOUNG, JASMINE J
24500	SAILER, JAMIE R
24781	UHAUL
	UNCLE BOBS SELF STORAGE
25041	THOMAS, TREVOR
32060	7ELEVEN
	REDBOX
32080	STARBUCKS
	STARBUCKS COFFEE
32100	BEAR CREEK EYE CARE OPTOMETRY
	BROADWAY PARTNERS INSURANCE SERVICES
	CHIROPRACTIC INJURY CARE & PREVENTIO
	CREATIVE NAIL
	DCANTERS WINE BAR & GRILL
	PAUL O WILSON D
	SGB INSURANCE SERVICES INC
	STEWS BARBER SHOP
	SUBMARINA CALIFORNIA SUBS
	VALENCIA, JESSE
	WILDOMAR DENTAL CARE
32120	DB BOULEVARD LLC 780
	VALVOLINE INSTANT OIL CHANGE
	WILDOMAR CAR WASH
32179	MORALEZ, LEE C
32246	BEAR CREEK CHIROMED
	BEAR CREEK DENTISTRY
	ESCAPE SALON & SPA INC
	JAMES HOCH DDS
	JAMES HOCH DDS BEAR CREEK DENTISTR
32250	YELLOW BASKET OF WILDOMAR
32278	CHINA ONE TASTY INC
	STADIUM PIZZA
	STADIUM PIZZA WILDOMAR
	WHITE LIME FROZEN YOGURT
32294	K KIM TAEKWONDO
	KORRIES PILATES PLACE
	LUXURY NAILS
	NATALIES RASCALS SPA & PET SERVICES
32310	BARONS MARKETPLACE
32326	COLDWELL BANKER
	RIVER SPRINGS CHARTER SCHOOL
32360	WKS EPL WILDOMAR

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 2017 (Cont'd)

32374	BEAR CREEK CARWASH
	JIFFY LUBE
32395	BEAR CREEK CHIROMED
	BEAR CREEK DENTISTRY
	DR DEE CARES
	JAMES HOCH DDS
	PATRIOT PIPELINE INC
	SHAGGY DOG GROOMING & SUPPLIES
32475	ALLSTATE
	ALTA II CLEANERS
	BEAR VALLEY MARKET & LIQUOR
	CHIROPRACTIC INJURY CARE
	COASTLINE EQUITY
	D ERIC VELK DDS
	DON PONCHOS MEXICAN FOOD
	E & E NAILS SPA
	HAZEN, LEE J
	K ANGELA VELK DDS
	MANETAMER
	NEWS FINANCIAL & INSURANCE SERVICES
	RAISED DONUTS & BAGELS
	VELK FAMILY DENTISTRY
32575	BEAR CREEK SELF STORAGE

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 2014

23805	CHEVRON STATION WILDOMAR
23819	MCDONALDS
23823	COLDWELL BANKER
	STARBUCKS COFFEE
	VSHS LLC
23857	TABZADEH FAMILY INC
23861	PANDA EXPRESS
	STRATA OAK LLC
23865	LOS REYES BAR & GRILL
	SPRINT
	STRATA OAK LLC
23873	EDWARD JONES FINANCIAL ADVISOR MI
	GLJ BUILDERS WEST
	LUSK INC
	MOUNTAIN WEST FINANCIAL INC
	OAK CREEK CENTER
23877	DUSK LLC
	FITNESS 19
	OAK CREEK MALL
23885	H&R BLOCK
	MASSAGE ENVY
23893	ALBERTSONS
	SAVON DRUGS
23905	ARLAN, MIRIAM B
	ASAY, ROBERT J
	ATLANTIS JEWELRY BUYERS LLC
	BLYTHE, BARRY
	CLINTON KEITH DENTAL GROUP
	DANDY MAILBOXES PLUS
	DAVIS, RENEE M
	DOLAN, DAN L
	EAGAN, MARY B
	FALDEN, ANDERS
	FANTASTIC SAMS WILDOMAR
	FISCHER, CYNDI
	FOSS, MICHAEL G
	FULLTON, KEITH R
	GAST, DEBORAH A
	GOLDEN SPOON FROZEN YOGURT
	GOSSETT, JENNIFER D
	HAMRICK, JAMES R
	HEALTHMARKETS AGENCY
	I TAN
	JEFFERS, JOHN
	KASTARI, KRISTIINA K
	KELLY, KATHLEEN
	KEMP, GERI
	LANNING, THERESA M
	LEWIS, EDDA N
	LOZANO, TERESA

CLINTON KEITH RD 2014 (Cont'd)

23905	MACDUFFY, GLEN
	MCDOWELL, JANET S
	MORRIS, COLLEN
	MORRISON, REGINA M
	MYATT, RICHARD G
	NAIL PALACE
	PROMPT CLEANERS
	PRUITT, BRIAN J
	RAJALA, ORLIN J
	REGUIERO, IRIS
	ROBINSON, DWAYNE
	SAINZ, STELLA
	SAKSHI SMOKE SHOP
	SAWITZ, REB
	SHEAR ENVY
	SMITH, ALEXIS
	SPIAGGIA, VINCENT
	SUBWAY SANDWICHES
	SUERO, JOY S
	TAYLOR, STEVE
	VERRIPS, SCOTT
	VISION EXPERIENCE OF WILDOMAR
	VSHS LLC
	WANG, MEICHEN
	WARD, PATRICIA F
	WATANABE, BRYAN
	WESTCOAST PHYSICIANS SERVICES
23937	OLD MARKET GRILL LLC
23971	LOS JILBERTOS TACO SHOP
	TEAKWOODS
24055	OAKS SPRINGS RANCH LLC
24500	SAILER, JAMIE R
24781	CLINTON KEITH SELF STORAGE
25041	THOMAS, KENNETH R
25125	BARBIE THOMAS PHYSICAL THERAPY
	OCCUPANT UNKNOWN,
32060	7ELEVEN
32080	STARBUCKS COFFEE
32100	ARRIBA BAJA GRILL
	BEAR CREEK EYE CARE
	BROADWAY PARTNERS INSURANCE SERVICES
	CHIROPRACTIC INJURY CARE & PREVENTIO
	CREATIVE NAIL
	DCANTERS WINE BAR & GRILL
	SMILE DENTAL CARE
	SUBMARINA CALIFORNIA SUBS
	WILDOMAR DENTAL CARE
	WILSON PAUL O D
32120	GREASE MONKEY
32179	MORALEZ, LEE C

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 2014 (Cont'd)

32246	BEAR CREEK CHIROMED
	BEAR CREEK DENISTRY
	BEAR CREEK MEDICAL WEIGHT LOSS
	ESCAPE SALON & SPA INC
	HOCH JAMES DDS
32278	POBLANO MEXICAN GRILL INC
	STADIUM PIZZA WILDOMAR
	WHITE LIME FROZEN YOGURT
32294	K KIM TAEKWONDO
	LUXURY NAILS
	THALIAS PILATES
32310	BARONS MARKETPLACE
32326	SYCAMORE ACADEMY
32374	BEAR CREEK CARWASH
	JIFFY LUBE
32395	BEAR CREEK TRAVEL
	BV CASH ADVANCE
	CLINTON KEITH VETERINARY HOSPITAL
	COLDWELL BANKER
	COUNTRY CLUB PROPERTIES
	JAMES HOCH DDS & BEAR CREEK DENTISTR
	KLUSCH DIANE DVM
	LUZURIAGA HENRY DVM
	REALTY TRUST GROUP
	SAGEMARK CONSULTING
	SHAGGY DOG GROOMING & SUPPLIES
	TENAJA COMMUNITY SERVICES DISTRICT
	TRGBEAR CREEK
	WEST COAST ESCROWWILDOMAR
	WOOD, BARBARA A
32406	KFC
	KFC LONG JOHN SILVERS WILDOMAR
32450	RITE AID
32475	ALLSTATE
	ALTA II CLEANERS
	BEAR CREEK REALTY
	BEAR VALLEY MARKET & LIQUOR
	BEAR VALLEY TAX CONSULTANTS
	CHIROPRACTIC WORKS
	CHIROPRACTIS WORKS LEE J HAZEN D
	CHON SCOTT A SECURITES AMERICA INC
	COASTLINE EQUITY
	DON PONCHOS MEXICAN FOOD
	HAZEN LEE J DC
	JDC INSURANCE SRVS INC
	MUNDO CELULAR NO 4
	NEWS FINANCIAL & INSURANCE SERVICES
	PHO 999
	RAISED DONUTS & BAGELS
	REALTY EXECUTIVES INTERNATIONL

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 2014 (Cont'd)

32475 TESORO ITALIAN CUISINE
VELK FAMILY DENTISTRY
32575 BEAR CREEK SELF STORAGE
32695 BEAR CREEK FEED & SUPPLY

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 2010

23805 CLINTON KEITH CHEVRON
SAVON DRUGS
STARBUCKS
23819 MC DONALDS
23823 COLDWELL BANKER
JUHAS, CARLOS
STARBUCKS
23857 DENNYS
23861 PANDA EXPRESS
23865 LA CRESTA MEXICAN GRILL
OAK CREEK CTR
23873 CASTLE & COOKE
CITY OF WILDOMAR
EDWARD JONES
23877 FITNESS 19
OAK CREEK CTR PHASE II
SINGH COMMUNICATIONS
23885 CHANCE INVESTMENTS INC
MASSAGE ENVY
23893 ALBERTSONS
ALBERTSONS BAKERY
ALBERTSONS DELICATESSEN
ALBERTSONS FLORAL
ALBERTSONS PHOTO FINISHING
23905 ACE APPLIANCE SVC INC
ACTUARIAL & FINANCIAL CNSLTNG
ALZ ELECTRICAL & LIGHTING SVC
AMES, JUDITH A
ANALEPSIS LLC
ANSTAETT, RICHARD
ASAY, ROBERT J
BLYTHE, BARRY
CARTER, JOHN J
CLINTON KEITH DDS
CLINTON KEITH DENTAL GROUP
COCHRANE, CAROLE A
COMPOS, ALBERT C
DANDY MAILBOXES PLUS
DICIOLLA, AMIE
DOGGIE DENTAL
DONAHUE, JUDE
DULANEY, JUNELL K
EAGAN, MARY B
FANTASTIC SAMS
FIERRO ENTERPRISES
FOSS, MICHAEL G
FOX MEDICAL BILLING SVC
FULLTON, KEITH R
GOLDEN SPOON
GREER, KEITH M

CLINTON KEITH RD 2010 (Cont'd)

23905	HALLMARK CONSTRUCTION SVC
	HYDRO DIMENSIONS
	IZADI KOUROS DDS
	KASTARI, KRISTIINA K
	KINSLEY, EDWARD C
	LIEN RECOVERY RESOURCES
	LOCKE, LARRY A
	MARABLE, DAVID B
	MAYNES, RODGER A
	MESSINA JOHN
	MILLER, LARRY
	NAIL PALACE
	NOW & THEN SCRAPBOOKS
	PACIFIC DENTAL SVC
	PACK, CARLIN M
	PANCHAL, DELINDA
	POLITELLI, FRANK R
	PRO FINISH AUTO PAINT TECH
	PROMPT CLEANERS
	PRUITT, BRIAN J
	PULLIAM, KENNETH C
	R C GRADING INC
	RANDY JACOBS DERMATOLOGY
	RANEY, CARY S
	SHEAR ENVY SALON
	SUBWAY
	VALENTINE, MATTHEW E
	VISION EXPERIENCE OF WILDOMAR
	WAITE, GLENN D
	WALGREN, DONALD K
	WEST COAST LIFE CHURCH
	WESTCOAST PHYSICIANS SVC
23937	ARBYS
23971	LOS JILBERTOS TACO SHOP
	PARKS TAE KWON DO
	YNAKA SUSHI
	YNAKA, SUSHI
24500	SAILER, JAMIE R
24781	CLINTON KEITH SELFSTORAGE
24850	HOAR, ROBERT F
25041	THOMAS, KENNETH R
25125	BARBIE THOMAS PHYSICAL THERARY
	OCCUPANT UNKNOWN,
32060	7ELEVEN
32080	STARBUCKS
32100	BOMBSHELL BOUTIQUE
	CHIROPRACTIC INJURY CARE
	CREATIVE NAILS
	DCANTERS WINE BAR & GRILL
	SANTA ROSA WELLNESS SPA

CLINTON KEITH RD 2010 (Cont'd)

32100	SUBMARINA SUBS & SANDWICHES
	TACOS TIJUANA
	WILDOMAR DENTAL CARE
	WIRELESS KING
32120	GREASE MONKEY
	MONKEY SHINE EXPRESS CAR WASH
32179	MORALEZ, LEE C
32326	SYCAMORE ACADEMY
32395	B V CASH ADVANCE
	BEAR CREEK CHIRO MED
	BEAR CREEK DENTISTRY
	BEAR CREEK TRAVEL
	BELLA SORELLAS
	CLINTON KEITH VETERINARY HOSP
	COLDWELL BANKER
	COUNTRY CLUB PROPERTIES
	CROWN PROPERTY MANAGEMENT
	KWIK STOP MARKET & LIQUOR
	MURRIETA SPRINGS SDA CHURCH
	QUALITY CLEANERS
	REALTY TRUST GROUP
	ROBERT D BARTH LAW OFFICES
	SHAGGY DOG GROOMING & SUPPLIES
	STADIUM PIZZA
	TENAJA COMMUNITY SVC
	TRGBEAR CREEK
	WEST COAST ESCROW
	WESTCOAST ESCROW
32450	RITE AID
32475	ALTA II CLEANERS
	BEAR CREEK REALTY
	BEAR VALLEY TAX CONSULTANTS
	CHIROPRACTIC WORKS INC
	COASTLINE EQUITY
	CRIVELLO RISTORANTE ITALIANO
	ORIGINAL MASSIMO PIZZA
	RAISED DONUTS & BAGELS
	VELK FAMILY DENTISTRY
	WESS HALL OF FAME
32575	BEAR CREEK SELF STORAGE
32905	CLINTON KEITH DENTAL GROUP

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 2005

23819 MCDONALDS RESTAURANT
23823 COLDWELL BANKER
COLDWELL BANKER ASSOCIATES REALTY
MARCEL, FRANCOIS A
STARBUCKS
23893 ALBERTSONS PHARMACY
ALBERTSONS SAVON
BANK OF AMERICA
23905 ADAMS ADJUSTING
AMERICAN REAL ESTATE INVESTMENTS CO
BAKER, KATHLEEN M
BECHTOLD, RONALD D
BORNER, DANA L
BRADLEY, JOHN M
CLINTON KEITH DENTAL GROUP
COCHRAN, DAWN M
COMMUNITY OUTREACH MINISTRY
COMPOS, ALBERT C
COWBOY CREEK ENTERPRISES
CUMO, JACK B
DANDY MAILBOXES PLUS
DONAHUE, DIANNE
EXOTIC TAN
FANTASTIC SAMS
FOSS, MICHAEL G
GONZALES, ROSALINA
GREENE, JENNIFER
HAYTH, JAMES R
IMAGE MAKER SALON & SUPPLIES
JURY MARK OD
KINGSLEY, DAVID M
L & M SHARP CNSTRCTN & DEV INC
L & M SHARP CONSTRUCTION & DEV INC
LA CRESTA DEVELOPMENT INC
LANNING, SCOTT K
LAVELLE, ASHLEY
LCD CONSTRUCTION INC
MILLER, LARRY
MITCHELL, STEVEN G
NAIL PALACE
NATIONSRX INC
NATIONSRX INC A CALIFORNIA CO
NUNAG, ALLAN
OAK CREEK CHIROPRACTIC
ONE TRACTOR DOZE IT ALL
OVALLE, SAUL
OWENS, CLARENCE
PASSARELLA, LORIE L
PEREZ, SCOTT R
PROMPT CLEANERS

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 2005 (Cont'd)

23905	PSR PERFORMANCE GROUP
	RANDY J JACOBS DERMATOLOGY INC
	RC GRADING INC
	SAMUELSON, CHRISTI M
	SMITH, GARY M
	SOMERS, BRANDI
	STEVENSON, DAN Y
	SUBWAY SANDWICHES
	UNIQUE ADOPTIONS INC
	VANWORTH, KEVIN L
	VARELA, RUBEN J
	VISION EXPERIENCE OF WILDOMAR
	VIZUAL SYMPHONY INC
	WATANABE BRYAN DDS
	WATANABE, BRYAN
	WELCH, CAROLYN
	WORLD PAYMENT CARDS
23971	LIBERTY FITNESS CENTER
	SYNERGIZE
23975	ANCHAL SUBWAY INC
24500	SAILER, MERRILYN
24850	HOAR, ROBERT F
25040	OCCUPANT UNKNOWN,
25041	OCCUPANT UNKNOWN,
25125	OCCUPANT UNKNOWN,
32179	OLIVER, ELCEY E
32395	BEAR CREEK DENTISTRY
	BEAR CREEK TRAVEL
	BOX, GEORGE
	BV CASH ADVANCE
	CALDWELL BANKERS ASSOCIATES REALTY
	CARTER, JOHN
	CLINTON KEITH VETERINARY HOSPITAL
	CURVES WILDOMAR
	DAVIES FINANCIAL
	DENNIS KIRK
	EDWARDS, J
	ERA MANOS REAL ESTATE
	FIDELITY NATIONAL TITLE
	HAIR BY TRENA BEECROFT
	HEALTH PRINT LTD
	HINKLE INVESTIGATIONS AND ATTO
	HOCH JAMES DDS
	HOME RUN PIZZA
	HOULE JAMES H CPA
	KIRK, DENNIS
	KNEX CORP
	KWIK STOP LIQUOR & MARKET
	LUZURIAGA HENRY DVM
	MAGNOLIA NORTHCROFT INC

CLINTON KEITH RD 2005 (Cont'd)

32395 MCCALL, CARRIE D
MCSTYLES SOFTWARE LLC
MERIDIAN CUSTOM POOLS
PACIFIC RECRUITING INC
RAJALA, ORLIN J
REALTY TRUST GROUP
REED FINANCIAL GROUP INC
SANDERS, DANIELIE R
SHAGGY DOG GROOMING & SUPPLIES
SIGNATURE STYLES RAMONA
SMITH, BROOKE S
STADIUM PIZZA
STRUCTURE WELLNESS CENTER
STYLES SIGNATURE
SUMMIT ESCROW
SUN TECH CUSTOM PATIOS
T NAILS
TENAJA COMMUNITY SERVICE DISTRICT
TOPS NAILS
WOOD, BARBARA A
X CUBED INC
32396 MAYORGA, LEONCIO
32475 ALLSTATE INSURANCE CO
ALTA II CLEANERS
BACK ALLEY MOUNTAIN BIKES
BEAR CREEK HAIR STUDIO
BEAR CREEK REALTY INC
BEAR VALLEY RANCH MARKET
BEAR VALLEY TAX CONSULTANTS
BOUQUET, C
CHAVEZ JEREMY
CHAVEZ, JEREMY I
CHIROPRACTIC WORKS INC
CONTOURS EXPRESS
CRIVELLO RISTORANTE ITALIANO
HAZEN, LEE J
HILLTOP CHRISTIAN SCHOOL
MILLE, LUCE
RAISED DONUTS & BAGELS
VELK FAMILY DENTISTRY
VELK, K
WE SS HALL OF FAME
32575 LOPEZ, JUAN M
32695 VIP MONITORING

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 2000

25040	SKY MESA TOOL & DIE
25041	THOMAS, KENNETH
25125	THOMAS, OMA M
32395	ATALLAH, MARCEL F
	AUGER, LORENE E
	BEAR CREEK CHIROPRACTIC
	BEAR CREEK DENTISTRY
	BEAR CREEK TRAVEL
	BEAR CREEK VIDEO
	CLINTON KEITH VETERINARY HOSPITAL
	COLDWELL BANKER BEAR CREEK PROPERTIES & REAL ESTATE
	DAILY FIX THE
	DANDY MAILBOXES PLUS
	DESIGNING EYE
	FINKLE HARLEY
	FRIENDLY CLEANERS
	HAIRY SITUATION
	HOME RUN PIZZA
	KLUSCH DIANE DVM
	LUZURIAGA HENRY DVM
	RACER X ILLUSTRATION
	SCHMIDT, EDWARD
	SHAGGY DOG GROOMING & SUPPLIES
	TENAJA COMMUNITY SERVICES DISTRICT
	TODAY VERTICALS
	WESS HALL OF FAME
	WESTERN CAPITAL FUNDING
32475	BACK ALLEY MOUNTAIN BIKES
	BEAR CREEK HAIR STUDIO
	BEAR CREEK TAE KWON DO
	BEAR VALLEY PHYSICAL THERAPY
	BEAR VALLEY RANCH MARKET
	BEAR VALLEY REALTY
	BEAR VALLEY TAX CONSULTANTS
	BOUQUET CORRAL
	BRENTWOOD MONTESSORI PRIVATE SCHOOL
	CAMPBELL JOHN INS
	COASTLINE EQUITY
	E Z CASH ADVANCE
	MILLIE LUCE
	MILLIE, LUCE
	NORTH COAST CLEANERS OF BEAR CREEK
	OLD TOWN DONUTS & PASTRIES ONE AND AHALF
	PHOTO PLACE THE
	WES S HALL OF FAME
32575	LOPEZ, JUAN
32695	PRICE, TED
	RANCHO LAND SALES

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 1995

24675 SHARP, ROSE
24941 CLOSE, PAUL
25040 THOMAS, N
25125 THOMAS, OMA M
25450 QUINTANA, ANGEL
32395 BEAR CREEK DENTISTRY
BEAR CREEK VIDEO
BLUE CROSS & BLUE SHIELD
CLINTON KEITH PIPE SUPPLY
CLINTON KEITH VETERINARY HOSP
DANDY MAILBOXES
EB CCO COMMERCIAL IMPROVEMENTS
FRIENDLY CLEANERS
GABRIC & ASSOC
HOME RUN PIZZA
INLAND VALLEY PROPERTIES
JOHN R PARKER
KWIK STOP MARKET & LIQUOR
LUZURIAGA, HENRY
MALBERG, EDNA
MCDEAVITT, PAUL SR
METZLER, L J
MILLIGAN, DAVID
MITTEL, C
RANCHO DRYWALL
REED FINANCIAL GROUP INC
RICHARD L MECKES
SHAGGY DOG GROOMING & SUPPLIES
SORENSON, GLENN
WESS HALL OF FAME
32475 BEAR VALLEY RANCH MARKET
BRENTWOOD MONTESSORI SCHOOL
COASTLINE EQUITY
NORTH COAST CLEANERS
ONLY FOR YOU
VIDEOS ETC
32575 LOPEZ, JUAN
32625 HELASH, JOHN
32695 PRICE, TED
RANCHO LAND SALES

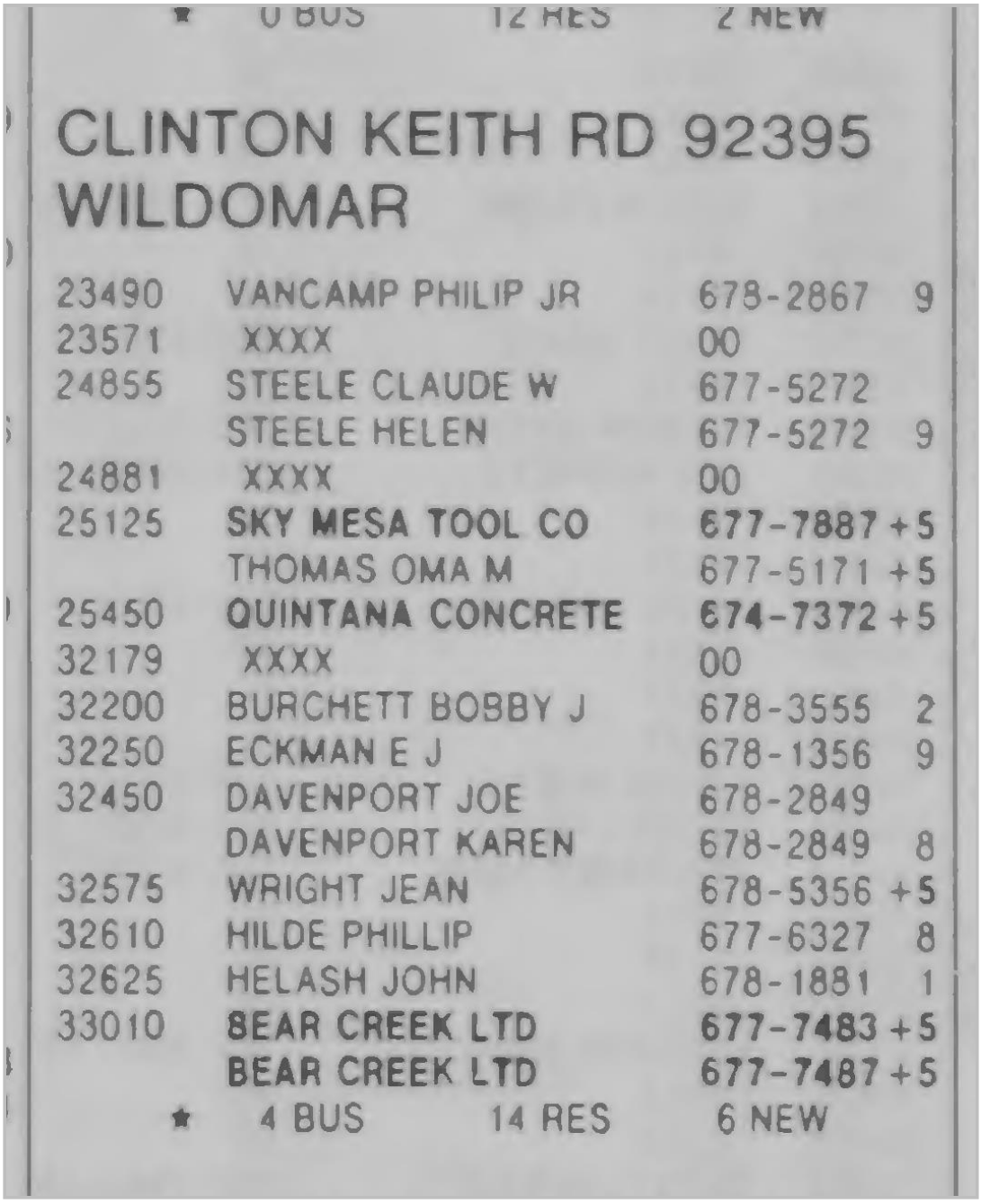
Target Street	Cross Street	Source
✓	-	EDR Digital Archive

CLINTON KEITH RD 1992

24486	PHILLIPS, SHAWN
24888	PAULS CRPT&PAINTING
24941	CLOSE, PAUL
25125	THOMAS, OMA M
25450	QUINTANA, ANGEL
32395	CLINTON K PIPE SPLY
	COUNTRYSIDE REALTY
	DANDY MAILBOXES
	E R A INLAND PRPRTY
	FRIENDLY CLEANERS
	HOCH JAMES DDS
	HOME RUN PIZZA
	KWIK STOP MKT&LQR
	LUZURIAGA HENRY DVM
	LUZURIAGA, HENRY
	MECKES RICHARD ATTY
	MECKES, RICHARD L
	PARKER JOHN R ATTY
	SHAGGY DOG GROOMING
	TENAJA CMNTY SERV
32475	BEAR CRK PHOTO
	COASTLINE EQUITY
	ONLY FOR YOU
32575	LOPEZ, M
32625	HELASH, JOHN
32695	PRICE, TED
	RANCHO LAND SALES

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

CLINTON KEITH RD 1985



* 0 BUS 12 RES 2 NEW

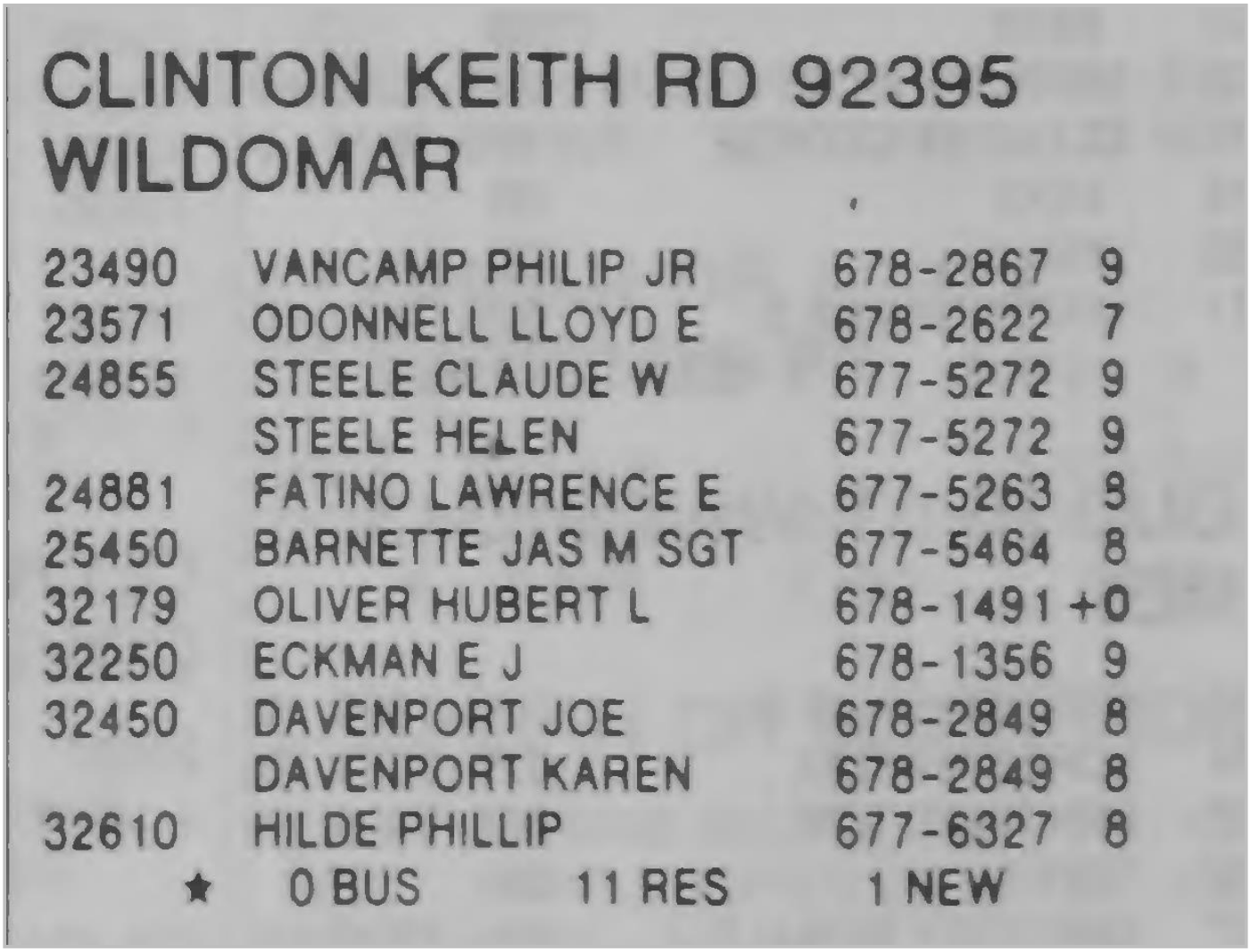
CLINTON KEITH RD 92395
WILDOMAR

23490	VANCAMP PHILIP JR	678-2867	9
23571	XXXX	00	
24855	STEELE CLAUDE W	677-5272	
	STEELE HELEN	677-5272	9
24881	XXXX	00	
25125	SKY MESA TOOL CO	677-7887	+5
	THOMAS OMA M	677-5171	+5
25450	QUINTANA CONCRETE	674-7372	+5
32179	XXXX	00	
32200	BURCHETT BOBBY J	678-3555	2
32250	ECKMAN E J	678-1356	9
32450	DAVENPORT JOE	678-2849	
	DAVENPORT KAREN	678-2849	8
32575	WRIGHT JEAN	678-5356	+5
32610	HILDE PHILLIP	677-6327	8
32625	HELASH JOHN	678-1881	1
33010	BEAR CREEK LTD	677-7483	+5
	BEAR CREEK LTD	677-7487	+5

* 4 BUS 14 RES 6 NEW

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

CLINTON KEITH RD 1980



CLINTON KEITH RD 92395
WILDOMAR

23490	VANCAMP PHILIP JR	678-2867	9
23571	ODONNELL LLOYD E	678-2622	7
24855	STEELE CLAUDE W	677-5272	9
	STEELE HELEN	677-5272	9
24881	FATINO LAWRENCE E	677-5263	9
25450	BARNETTE JAS M SGT	677-5464	8
32179	OLIVER HUBERT L	678-1491	+0
32250	ECKMAN E J	678-1356	9
32450	DAVENPORT JOE	678-2849	8
	DAVENPORT KAREN	678-2849	8
32610	HILDE PHILLIP	677-6327	8

★ 0 BUS 11 RES 1 NEW

Sage Wildomar Phase I ESA
NW Corner of Clinton Keith Rd and Wildomar Trail
WILDOMAR, CA 92595

Inquiry Number: 6578614.1
July 15, 2021

The EDR-City Directory Image Report

Environmental Data Resources Inc
6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction orforecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

Copyright 2020 by Environmental Data Resources, Inc. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, Inc. or its affiliates is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, Inc. or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

EDR is licensed to reproduce certain City Directory works by the copyright holders of those works. The purchaser of this EDR City Directory Report may include it in report(s) delivered to a customer. Reproduction of City Directories without permission of the publisher or licensed vendor may be a violation of copyright.

Data by
infoUSA®
Copyright©2008
All Rights Reserved

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2017	☐	☑	EDR Digital Archive
2014	☐	☑	EDR Digital Archive
2010	☐	☑	EDR Digital Archive
2005	☐	☑	EDR Digital Archive
2000	☐	☑	EDR Digital Archive
1995	☐	☑	EDR Digital Archive
1992	☐	☑	EDR Digital Archive
1985	☐	☑	Haines Criss-Cross Directory
1980	☐	☑	Haines Criss-Cross Directory
1976	☐	☑	Haines Criss-Cross Directory
1971	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

NW Corner of Clinton Keith Rd and Wildomar Trail
WILDOMAR, CA 92595

No Addresses Found

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*	
CATT RD			
2017	pg. A1	EDR Digital Archive	
2014	pg. A2	EDR Digital Archive	
2010	pg. A3	EDR Digital Archive	
2005	pg. A4	EDR Digital Archive	
2000	pg. A5	EDR Digital Archive	
1995	pg. A6	EDR Digital Archive	
1992	pg. A7	EDR Digital Archive	
1985	pg. A8	Haines Criss-Cross Directory	
1980	pg. A9	Haines Criss-Cross Directory	
1976	pg. A10	Haines Criss-Cross Directory	
1971	-	Haines Criss-Cross Directory	Street not listed in Source
GEORGE AVE			
2017	-	EDR Digital Archive	Target and Adjoining not listed in Source
2014	-	EDR Digital Archive	Target and Adjoining not listed in Source
2010	-	EDR Digital Archive	Target and Adjoining not listed in Source
2005	-	EDR Digital Archive	Target and Adjoining not listed in Source
2000	-	EDR Digital Archive	Target and Adjoining not listed in Source
1995	-	EDR Digital Archive	Target and Adjoining not listed in Source
1992	-	EDR Digital Archive	Target and Adjoining not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1980	-	Haines Criss-Cross Directory	Street not listed in Source
1976	-	Haines Criss-Cross Directory	Street not listed in Source
1971	-	Haines Criss-Cross Directory	Street not listed in Source

City Directory Images

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

CATT RD 2017

22846	URRUTIA, WILLY
22858	STEVENS, RYAN C
22954	JETTON, JEFF R
22966	JOYCE, BRYAN G
22978	WADHWANI, IAN K
23026	GOLDTHWAITE, DEVIN
23033	GHANI, DAVID
23038	QUIST, CHAD A
23044	FORREY, CYNTHIA
23045	CASTANEDA, RYAN A
23050	MORENO, ALEX
23057	BAUN, MICHELLE B
23058	MIRNAGHIAN, JILA
23062	STRICKLIN, WAYNE F
23074	LONG, TRACY D
23086	SAUL, BRANDON C
23098	ALVARADO, EDGARDO L
23110	FORTNER, JAMES E
23122	SAN, MILLAN M
23186	DELUCIO, JESUS
23198	GRAJEDA, FRANKIE
23208	FLANNERY, DAVID A
23220	PAE, CHONG H
23905	TESORO
24850	NEWKIRK, PATRICK
25400	BLOMGREN, ROBERT D
25470	MELLEIN, RICHARD F

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

CATT RD 2014

22846	EYRE, CHRISTOPHER I
22858	ROGERS, DONALD H
22954	HALEN, STEVEN
22966	JOYCE, BRYAN G
22978	WIGAND, BRENT
23026	MENA, BLANCA O
23033	ALLEN, MICHAEL D
23038	QUIST, CHAD A
23044	CHARNOCK, ERIN B
23045	HOWELL, DENNIS J
	MARTINI, JEAN K
23050	MORENO, ALEX
23057	JOHNSON, TRISTAN
23058	MIRNAGHIAN, JILA
23062	STRICKLIN, WAYNE F
23074	LONG, TRACY D
23086	CASON, JAMES L
23098	OCCUPANT UNKNOWN,
23110	VILLASENOR, HILARIO
23122	MILLAN, MICHAEL S
23134	OCCUPANT UNKNOWN,
23186	CARVAJAL, JOSE A
23198	GRAJEDA, FRANKIE
23208	FLANNERY, MARIE M
23220	PAE, CHONG H
23232	ARGUELLO, JOSE E
23905	TESORO
24850	OMARA, BRIAN A
25400	BLOMGREN, ROBERT D
25470	MELLEIN, RICHARD F
25550	BUNN, STEVEN E
25600	OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

CATT RD 2010

22846 OCCUPANT UNKNOWN,
22858 THELEN, JOSIAH
22954 HALEN, STEVEN
22966 JOYCE, BRYAN G
22978 OLSEN, HANS C
23026 OCCUPANT UNKNOWN,
23038 QUIST, CHAD A
23044 CHARNOCK, ERIN B
23050 MORENO, ALEX S
23058 THERMOS, JAMES N
23062 OCCUPANT UNKNOWN,
23074 LONG, TRACY D
23086 CASON, RANDIE L
23098 SHIVELY, JEFF J
23110 OCCUPANT UNKNOWN,
23134 SMITH, BOBBY J
23186 CARBAJAL, JOE A
23198 OCCUPANT UNKNOWN,
23208 FALLESEN, MATTHEW R
23220 PAE, CHONG H
23232 ARGUELLO, JOSE E
23905 USA
23980 GARCIA, BENSON D
24850 OCCUPANT UNKNOWN,
25400 OCCUPANT UNKNOWN,
25470 OCCUPANT UNKNOWN,
25500 LOWES, CLARENCE
25550 BUNN, STEVEN
25600 OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

CATT RD 2005

22846	MARTIN, CHRISTOPHER
22954	MEJIA, CLAUDIA
22966	JOYCE, BRYAN G
22978	OLSEN, HANS C
23026	CAPACI, LEVI N
23038	HUL, THIDA
23044	CHARNOCK, ERIN B
23050	MORENO, ALEX S
23058	THERMOS, JAMES N
23062	STRICKLIN, WAYNE F
23074	LONG, TRACY D
23086	OCCUPANT UNKNOWN,
23098	OCCUPANT UNKNOWN,
23110	OCCUPANT UNKNOWN,
23122	VICTORIA, BRIAN W
23134	SMITH, BOBBY J
23135	DEMOVILLE, RANDALL L
23165	CERVERA, EDWARD L
23186	SULTANI, NOOR A
23208	THIELFOLDT, DAVID
23220	PAE, CHONG H
23232	ARGUELLO, JESSICA L
23345	OCCUPANT UNKNOWN,
23365	GARCIA, LOUIE R
23385	SCHENCK, PAUL D
23820	MARSH, DOUG
	OCCUPANT UNKNOWN,
23905	USA PETROLEUM
23980	GARCIA, BENSON D
24850	OCCUPANT UNKNOWN,
24888	DINNEL, ROBIN
25320	HANSEN, GINNY
25400	AHMED, NASIR
25470	GREINER, SCOTT A
25550	LEGGETT MASONRY
	LEGGETT, EDWARD L
25600	SMITH, TIM

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

CATT RD 2000

23345 CAMPBELL ELECTRIC
23490 RANCHO AUTOMATIC MACHINING
24850 HOAR, ROBERT F
25320 HANSEN, GINNY
25400 RUCKER, CLIFF
25500 LOWE, C R
25550 TURNER, ELBERT

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

CATT RD 1995

23135	RANDALL, RUSSELL
23345	CAMPBELL ELECTRIC
23490	DIMAGGIO, S F
23494	RANCHO AUTOMATIC MACHINING
23940	FAITH BAPTIST CHURCH
23980	LOPEZ, LAUREN
24850	HOAR, ROBERT F
25320	HANSEN, FOREST D
25500	LOWE, C R
25550	TURNER, ELBERT

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

CATT RD 1992

23135	RANDALL, RUSSELL
23345	CAMPBELL ELECTRIC
23490	DIMAGGIO, S F
	RANCHO ATMTC MACHNG
23940	FAITH BAPTIST CH
	GODDARD, BRUCE
24850	HOAR, ROBERT F
24900	TILLER, ROBERT
25320	HANSEN, FOREST D
25400	KLINE, R R
25500	LOWE, C R
25550	TURNER, ELBERT

Target Street	Cross Street	Source
-	✓	Haines Criss-Cross Directory

CATT RD 1985

CATT RD 92395
WILDOMAR

23120	SWEET JAS	678-4671	2
23135	RANDALL RUSSELL	678-4912	4
23150	XXXX	00	
23490	DIMAGGIO S	678-2239	4
23491	JACKSON JIMMIE	677-6006	3
23820	DEPASQUALE FRANK L	678-4555	2
	FAITH BAPTIST CH	**678-3604**	**+5**
	GODDARD BRUCE PASTR	678-3604	+5
23900	XXXX	00	
23980	XXXX	00	
24486	KRAFT DONALD	677-6666	0
24492	XXXX	00	
24500	XXXX	00	
24675	SLAGLE HOWARD	677-7951	+5
24850	HOAR ROBT F	678-4531	+5
24888	MITCHELL DOLLY V	677-5884	
	MITCHELL JAS M	677-5884	
	SCHLEUNIGER A	677-5885	2
24900	DEJONG NICHOLAS T	678-3244	0
24931	MORROW KEITH	677-5149	8
24941	CLOSE PAUL	677-6188	
25025	XXXX	00	
25320	HANSEN FOREST D	677-5168	
25340	MILES LEONARD	677-5887	2
25343	EVANS ROBT J	678-5444	+5
25400	KLINE R R	678-4233	1
25470	TENHUNDFELD JEROME	677-5365	7
25500	LOWE CLARENCE R	677-5843	7
25550	XXXX	00	
25600	QUINN JOHN P	677-5909	6

★ 1 BUS 29 RES 5 NEW

Target Street	Cross Street	Source
-	✓	Haines Criss-Cross Directory

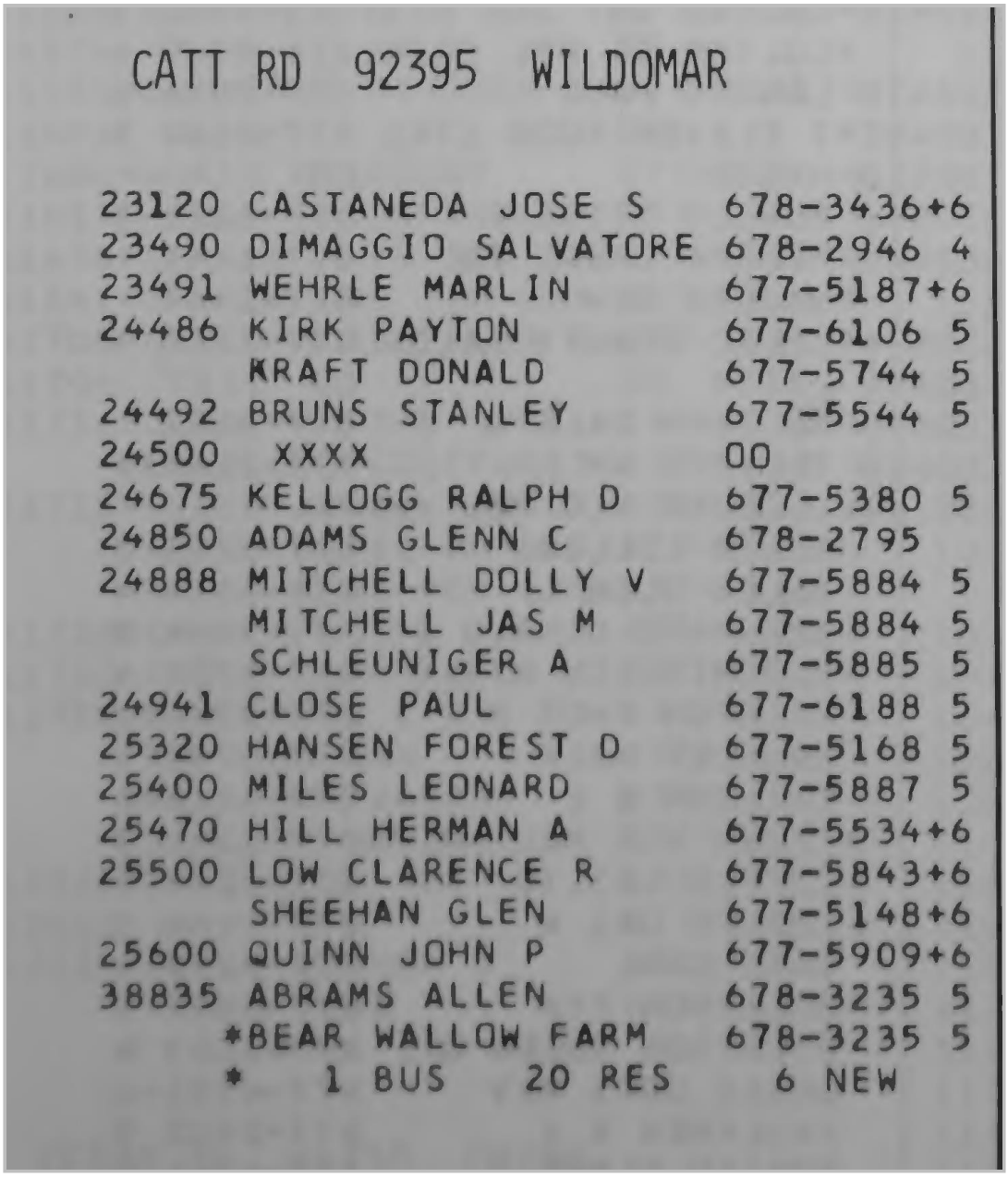
CATT RD 1980

CATT RD 92395 WILDOMAR

23120	APARTMENTS		
	BAER HERMAN	678-1782	+0
	BYERS WM P	678-3134	+0
	FINN JOHN H	678-2702	+0
	LAKE WILDOMAR	678-2547	9
	MEYER JAS P	678-1760	+0
	POULSON ROBT	678-1773	+0
	SHOOK L W BILL	678-2547	8
	TENBARGE JOHN	678-1779	+0
23120	.....		
23150	PENA J N	678-2594	9
23490	DIMAGGIO SALVATORE	678-2946	4
23491	XXXX	00	
23980	FLORA DANICA AGRI	678-3334	+0
24486	KRAFT DONALD	677-6666	+0
24492	XXXX	00	
24500	XXXX	00	
24675	KELLOGG RALPH D	677-5380	5
24850	COLEMAN DAVID G&	678-1797	+0
24888	MITCHELL DOLLY V	677-5884	5
	MITCHELL JAS M	677-5884	5
	SCHLEUNIGER A	677-5885	5
24900	DEJONG NICHOLAS T	678-3244	+0
24931	MORROW KEITH	677-5149	8
24941	CLOSE PAUL	677-6188	5
25025	SHEEHAN ANNETTE	677-5535	+0
25320	HANSEN FOREST D	677-5168	5
25343	EVANS ROBERT J	677-5187	9
25400	MILES LEONARD	677-5887	5
25470	OWENS PATRICK	677-5879	9
	TENHUNDFELD JEROME	677-5365	7
25500	LOWE CLARENCE R	677-5843	7
25550	XXXX	00	
25600	QUINN JOHN P	677-5909	6
38835	ABRAMS ALLAN M	678-3235	8
★	**BEAR WALLOW FARM**	**678-3235**	5
★	1 BUS 33 RES	11 NEW	

Target Street	Cross Street	Source
-	✓	Haines Criss-Cross Directory

CATT RD 1976



CATT RD 92395 WILDOMAR

23120	CASTANEDA JOSE S	678-3436+6
23490	DIMAGGIO SALVATORE	678-2946 4
23491	WEHRLE MARLIN	677-5187+6
24486	KIRK PAYTON	677-6106 5
	KRAFT DONALD	677-5744 5
24492	BRUNS STANLEY	677-5544 5
24500	XXXX	00
24675	KELLOGG RALPH D	677-5380 5
24850	ADAMS GLENN C	678-2795
24888	MITCHELL DOLLY V	677-5884 5
	MITCHELL JAS M	677-5884 5
	SCHLEUNIGER A	677-5885 5
24941	CLOSE PAUL	677-6188 5
25320	HANSEN FOREST D	677-5168 5
25400	MILES LEONARD	677-5887 5
25470	HILL HERMAN A	677-5534+6
25500	LOW CLARENCE R	677-5843+6
	SHEEHAN GLEN	677-5148+6
25600	QUINN JOHN P	677-5909+6
38835	ABRAMS ALLEN	678-3235 5
	*BEAR WALLOW FARM	678-3235 5
	* 1 BUS 20 RES	6 NEW

Appendix H
GBA Geoenvironmental Report

Important Information about This

Geoenvironmental Report

Geoenvironmental studies are commissioned to gain information about environmental conditions on and beneath the surface of a site. The more comprehensive the study, the more reliable the assessment is likely to be. But remember: Any such assessment is to a greater or lesser extent based on professional opinions about conditions that cannot be seen or tested. Accordingly, no matter how many data are developed, risks created by unanticipated conditions will always remain. *Have realistic expectations.* Work with your geoenvironmental consultant to manage known and unknown risks. Part of that process should already have been accomplished, through the risk allocation provisions you and your geoenvironmental professional discussed and included in your contract's general terms and conditions. This document is intended to explain some of the concepts that may be included in your agreement, and to pass along information and suggestions to help you manage your risk.

Beware of Change; Keep Your Geoenvironmental Professional Advised

The design of a geoenvironmental study considers a variety of factors that are subject to change. Changes can undermine the applicability of a report's findings, conclusions, and recommendations. *Advise your geoenvironmental professional about any changes you become aware of.* Geoenvironmental professionals cannot accept responsibility or liability for problems that occur because a report fails to consider conditions that did not exist when the study was designed. Ask your geoenvironmental professional about the types of changes you should be particularly alert to. Some of the most common include:

- modification of the proposed development or ownership group,
- sale or other property transfer,
- replacement of or additions to the financing entity,
- amendment of existing regulations or introduction of new ones, or
- changes in the use or condition of adjacent property.

Should you become aware of any change, *do not rely on a geoenvironmental report.* Advise your geoenvironmental professional immediately; follow the professional's advice.

Recognize the Impact of Time

A geoenvironmental professional's findings, recommendations, and conclusions cannot remain valid indefinitely. The more time that passes, the more likely it is that important latent changes will occur. *Do not rely on a geoenvironmental report if too much time has elapsed since it was completed.* Ask your environmental professional to define "too much time." In the case of Phase I Environmental Site Assessments (ESAs), for example, more than 180 days after submission is generally considered "too much."

Prepare To Deal with Unanticipated Conditions

The findings, recommendations, and conclusions of a Phase I ESA report typically are based on a review of historical information, interviews, a site "walkover," and other forms of noninvasive research. When site subsurface conditions are not sampled in any way, the risk of unanticipated conditions is higher than it would otherwise be.

While borings, installation of monitoring wells, and similar invasive test methods can help reduce the risk of unanticipated conditions, *do not overvalue the effectiveness of testing.* Testing provides information about actual conditions only at the precise locations where samples are taken, and only when they are taken. Your geoenvironmental

professional has applied that specific information to develop a general opinion about environmental conditions. *Actual conditions in areas not sampled may differ (sometimes sharply) from those predicted in a report.* For example, a site may contain an unregistered underground storage tank that shows no surface trace of its existence. *Even conditions in areas that were tested can change*, sometimes suddenly, due to any number of events, not the least of which include occurrences at adjacent sites. Recognize, too, that *even some conditions in tested areas may go undiscovered,* because the tests or analytical methods used were designed to detect only those conditions assumed to exist.

Manage your risks by retaining your geoenvironmental professional to work with you as the project proceeds. Establish a contingency fund or other means to enable your geoenvironmental professional to respond rapidly, in order to limit the impact of unforeseen conditions. And to help prevent any misunderstanding, identify those empowered to authorize changes and the administrative procedures that should be followed.

Do Not Permit Any Other Party To Rely on the Report

Geoenvironmental professionals design their studies and prepare their reports to meet the specific needs of the clients who retain them, in light of the risk management methods that the client and geoenvironmental professional agree to, and the statutory, regulatory, or other requirements that apply. The study designed for a developer may differ sharply from one designed for a lender, insurer, public agency...or even another developer. *Unless the report specifically states otherwise, it was developed for you and only you.* Do not unilaterally permit any other party to rely on it. The report and the study underlying it may not be adequate for another party's needs, and you could be held liable for shortcomings your geoenvironmental professional was powerless to prevent or anticipate. Inform your geoenvironmental professional when you know or expect that someone else—a third-party—will want to use or rely on the report. *Do not permit third-party use or reliance until you first confer with the geoenvironmental professional who prepared the report.* Additional testing, analysis, or study may be required and, in any event, appropriate terms and conditions should be agreed to so both you and your geoenvironmental professional are protected from third-party risks. *Any party who relies on a geoenvironmental report without the express written permission of the professional who prepared it and the client for whom it was prepared may be solely liable for any problems that arise.*

Avoid Misinterpretation of the Report

Design professionals and other parties may want to rely on the report in developing plans and specifications. They need to be advised, in writing, that their needs may not have been considered when the study's scope was developed, and, even if their needs were considered, they might misinterpret geoenvironmental findings, conclusions, and recommendations. *Commission your geoenvironmental professional to explain pertinent elements of the report to others who are permitted to rely on it, and to review any plans, specifications or other instruments of professional service that incorporate any of the report's findings, conclusions, or recommendations.* Your geoenvironmental professional has the best understanding of the issues involved, including the fundamental assumptions that underpinned the study's scope.

Give Contractors Access to the Report

Reduce the risk of delays, claims, and disputes by giving contractors access to the full report, *providing that it is accompanied by a letter of transmittal that can protect you* by making it unquestionably clear that: 1) the study was not conducted and the report was not prepared for purposes of bid development, and 2) the findings, conclusions, and recommendations included in the report are based on a variety of opinions, inferences, and assumptions and are subject to interpretation. Use the letter to also advise contractors to consult with your geoenvironmental professional to obtain clarifications, interpretations, and guidance (a fee may be required for this service), and that—in any event—they should conduct additional studies to obtain the specific type and extent of information each prefers for preparing a bid or cost estimate. Providing access to the full report, with the appropriate caveats, helps prevent formation of adversarial attitudes and claims of concealed or differing conditions. If a contractor elects to ignore the warnings and advice in the letter of transmittal, it would do so at its own risk. Your geoenvironmental professional should be able to help you prepare an effective letter.

Do Not Separate Documentation from the Report

Geoenvironmental reports often include supplemental documentation, such as maps and copies of regulatory files, permits, registrations, citations, and correspondence with regulatory agencies. If subsurface explorations were performed, the report may contain final boring logs and copies of laboratory data. If remediation activities occurred on site, the report may include: copies of daily field reports; waste manifests; and information about the disturbance of subsurface materials, the type and thickness of any fill placed on site, and fill placement practices, among other types of documentation. *Do not separate supplemental documentation from the report. Do not, and do not permit any other party to redraw or modify any of the supplemental documentation for incorporation into other professionals' instruments of service.*

Understand the Role of Standards

Unless they are incorporated into statutes or regulations, standard practices and standard guides developed by the American Society for Testing and Materials (ASTM) and other recognized standards-developing organizations (SDOs) are little more than aspirational methods agreed to by a consensus of a committee. The committees that develop standards may not comprise those best-qualified to establish methods and, no matter what, no standard method can possibly consider the infinite client- and project-specific variables that fly in the face of the theoretical "standard conditions" to which standard practices and standard guides apply. In fact, these variables can be so pronounced that geoenvironmental professionals who comply with every directive of an ASTM or other standard procedure could run afoul of local custom and practice, thus violating the standard of care. Accordingly, when geoenvironmental professionals indicate in their reports that they have performed a service "in general compliance" with one standard or another, it means they have applied professional judgement in creating and implementing a scope of service designed for the specific client and project involved, and which follows some of the general precepts laid out in the referenced standard. To the extent that a report indicates "general compliance" with a standard, you may wish to speak with your geoenvironmental professional to learn more about what was and was not done. *Do not assume a given standard was followed to the letter.* Research indicates that that seldom is the case.

Realize That Recommendations May Not Be Final

The technical recommendations included in a geoenvironmental report are based on assumptions about actual conditions, and so are preliminary or tentative. Final recommendations can be prepared only by observing actual conditions as they are exposed. For that reason, you should retain the geoenvironmental professional of record to observe construction and/or remediation activities on site, to permit rapid response to unanticipated conditions. *The geoenvironmental professional who prepared the report cannot assume responsibility or liability for the report's recommendations if that professional is not retained to observe relevant site operations.*

Understand That Geotechnical Issues Have Not Been Addressed

Unless geotechnical engineering was specifically included in the scope of professional service, a report is not likely to relate any findings, conclusions, or recommendations about the suitability of subsurface materials for construction purposes, especially when site remediation has been accomplished through the removal, replacement, encapsulation, or chemical treatment of on-site soils. The equipment, techniques, and testing used by geotechnical engineers differ markedly from those used by geoenvironmental professionals; their education, training, and experience are also significantly different. If you plan to build on the subject site, but have not yet had a geotechnical engineering study conducted, your geoenvironmental professional should be able to provide guidance about the next steps you should take. The same firm may provide the services you need.

Read Responsibility Provisions Closely

Geoenvironmental studies cannot be exact; they are based on professional judgement and opinion. Nonetheless, some clients, contractors, and others assume geoenvironmental reports are or certainly should be unerringly precise. Such assumptions have created unrealistic expectations that have led to wholly unwarranted claims and disputes. To help prevent such problems, geoenvironmental professionals have developed a number of report provisions and contract terms that explain who is responsible for what, and how risks are to be allocated. Some people mistake these for "exculpatory clauses," that is, provisions whose purpose is to transfer one party's rightful responsibilities and liabilities to someone else. Read the responsibility provisions included in a report and in the contract you and your geoenvironmental professional agreed to. *Responsibility provisions are not "boilerplate."* They are important.

Rely on Your Geoenvironmental Professional for Additional Assistance

Membership in the Geoprofessional Business Association exposes geoenvironmental professionals to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a geoenvironmental project. Confer with your GBA-member geoenvironmental professional for more information.

GEOPROFESSIONAL BUSINESS ASSOCIATION

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@geoprofessional.org www.geoprofessional.org

Copyright 2015 by the Geoprofessional Business Association (GBA). Duplication, reproduction, copying, or storage of this document, in whole or in part, by any means whatsoever, is strictly prohibited, except with GBA's specific written permission. Excerpting, quoting, or otherwise extracting wording from this document is permitted only with the express written permission of GBA, and only for purposes of scholarly research or book review. Only GBA-Member Firms may use this document as a complement to or as an element of a geoenvironmental report. Any other firm, individual, or entity that so uses this document without being a GBA-Member Firm could be committing negligent or intentional (fraudulent) misrepresentation.

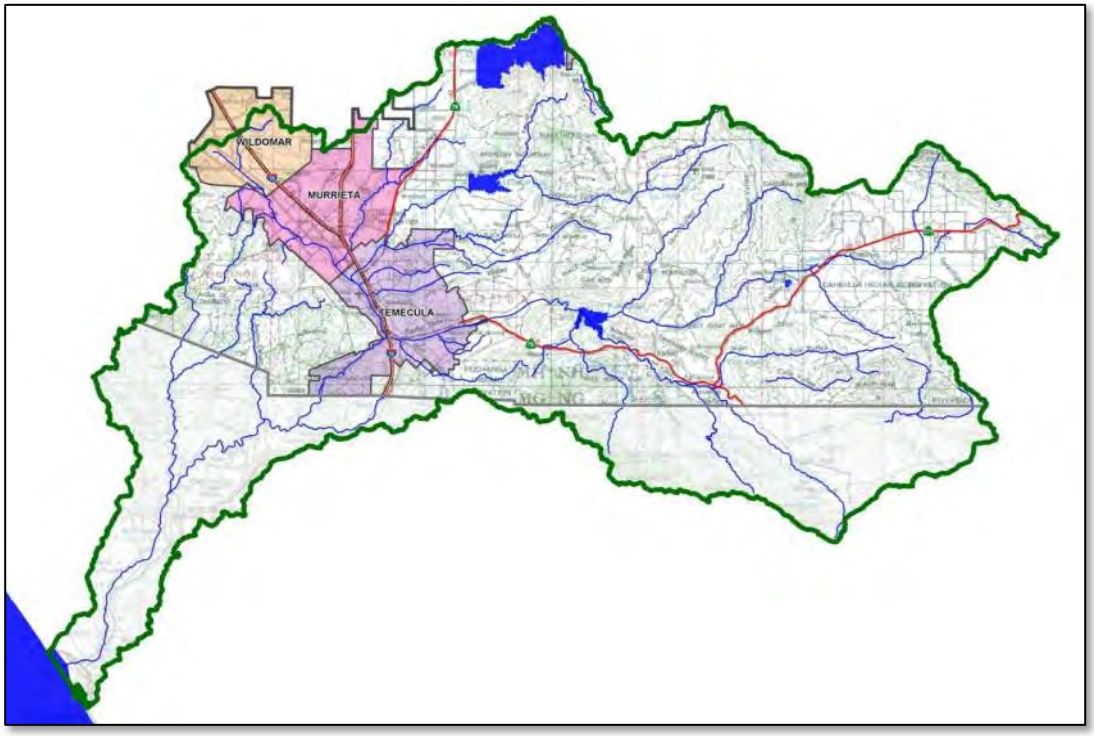
Appendix 12

Preliminary Project Specific Water Quality Management Plan

County Project Specific Water Quality Management Plan

A Template for preparing Project Specific WQMPs for Priority Development Projects only for use in the ***unincorporated portions of Riverside County*** *located within the* ***Santa Margarita Region***.

Project Title: WILDOMAR CROSSINGS MIXED-USE PROJECT
Development No: TBD
Design Review/Case No: 21-0012
BMP (Latitude, Longitude): 33° 35' 53"N, 117° 14' 30"W



☒ **Preliminary**
☐ **Final**

Original Date Prepared: November 29, 2021

Revision Date(s): April 2, 2022

Based on 2018 WQMP, prepared for Compliance with Regional Board Order No. **R9-2013-0001** *as amended by Order No.* **R9-2015-0001** *and Order No.* **R9-2015-0100**

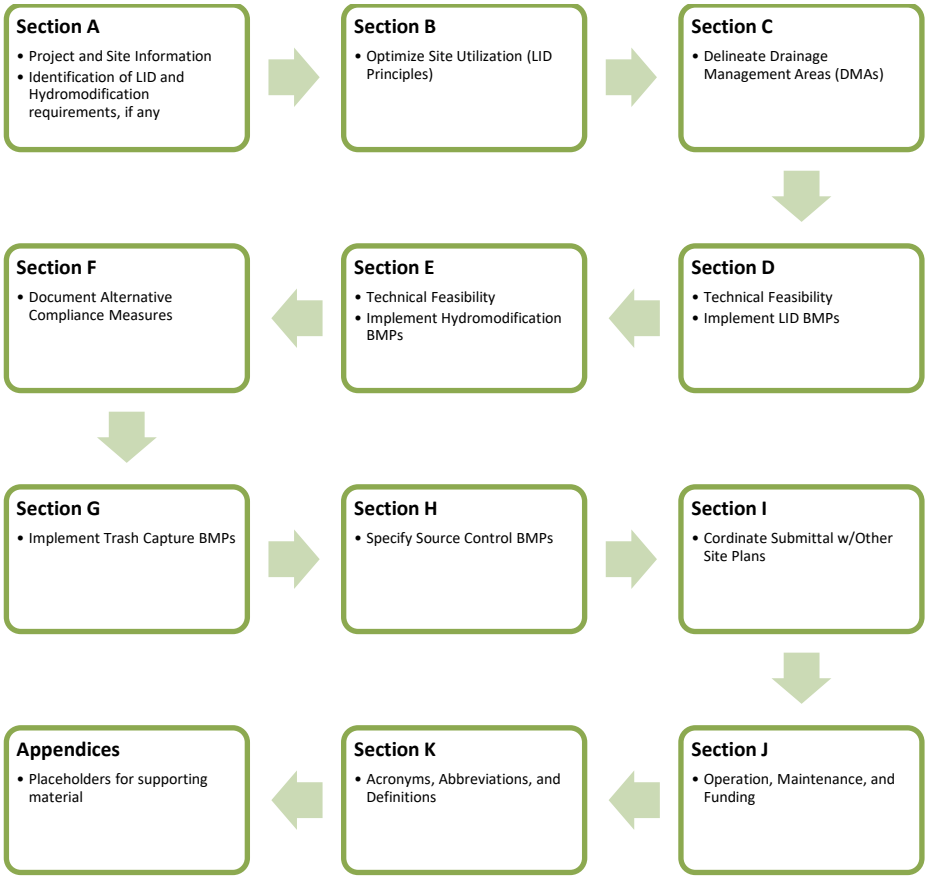
The County updated this template on July 24, 2018

Contact Information
Prepared for: Sage Investco LLC, 3837 Birch Street, Newport Beach, CA 92660,
Contact: Ralph W. Deppisch
Email: ralph@sageinvestco.com

Prepared by: DRC Engineering Inc., 6840 Indiana Avenue, Suite 215, Riverside, CA 92506, Tele: 714-685-6860
Email: rsklepko@drc-eng.com

A Brief Introduction

The Regional Municipal Separate Stormwater Sewer System (MS4) Permit[1] requires that a Project-Specific WQMP be prepared for all development projects within the Santa Margarita Region (SMR) that meet the 'Priority Development Project' categories and thresholds listed in the SMR Water Quality Management Plan (WQMP). This Project-Specific WQMP Template for Development Projects in the **Santa Margarita Region** has been prepared to help document compliance and prepare a WQMP submittal. Below is a flowchart for the layout of this Template that will provide the steps required to document compliance.



[1] Order No. R9-2013-0001 as amended by Order Nos. R9-2015-0001 and R9-2015-0100, NPDES No. CAS0109266, National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the MS4s Draining the Watersheds within the San Diego Region, California Regional Water Quality Control Board, May 8, 2013.

OWNER'S CERTIFICATION

This Project-Specific WQMP has been prepared for Sage Investco LLC by DRC Engineering, Inc. for the WILDOMAR CROSSINGS MIXED-USE project.

This WQMP is intended to comply with the requirements of Riverside County for County Ordinance No. 754 which includes the requirement for the preparation and implementation of a Project-Specific WQMP.

The undersigned, while owning the property/project described in the preceding paragraph, shall be responsible for the implementation and funding of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. In addition, the property owner accepts responsibility for interim operation and maintenance of Stormwater Best Management Practices until such time as this responsibility is formally transferred to a subsequent owner. This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. At least one copy of this WQMP will be maintained at the project site or project office in perpetuity. The undersigned is authorized to certify and to approve implementation of this WQMP. The undersigned is aware that implementation of this WQMP is enforceable under Riverside County Water Quality Ordinance (No. 754).

"I, the undersigned, certify under penalty of law that the provisions of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Ralph W. Deppisch
Owner's Signature

4/19/22
Date

Ralph W. Deppisch
Owner's Printed Name

President
Owner's Title/Position Director of Development

PREPARER'S CERTIFICATION

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control Best Management Practices in this plan meet the requirements of Regional Water Quality Control Board Order No. **R9-2013-0001** as amended by Order Nos. **R9-2015-0001 and R9-2015-0100**."

Ronald W. Sklepko
Preparer's Signature

4-18-2022
Date

Ronald W. Sklepko, P.E., QSD
Preparer's Printed Name

Vice President / Project Manager
Preparer's Title/Position

Preparer's Licensure:

REGISTERED PROFESSIONAL ENGINEER
RONALD W. SKLEPKO
No. C46216
Exp. 12-31-2022
CIVIL
STATE OF CALIFORNIA

Table of Contents

Section A: Project and Site Information 7
A.1 Maps and Site Plans 8
A.2 Identify Receiving Waters 8
A.3 Drainage System Susceptibility to Hydromodification 9
A.4 Additional Permits/Approvals required for the Project: 10
Section B: Optimize Site Utilization (LID Principles) 11
Section C: Delineate Drainage Management Areas (DMAs) 16
Section D: Implement LID BMPs 21
D.1 Full Infiltration Applicability 21
D.2 Biofiltration Applicability 23
D.3 Feasibility Assessment Summaries 25
D.4 LID BMP Sizing 26
Section E: Implement Hydrologic Control BMPs and Sediment Supply BMPs 29
E.1 Hydrologic Control BMP Selection 29
E.2 Hydrologic Control BMP Sizing 30
E.3 Implement Sediment Supply BMPs 30
Section F: Alternative Compliance 35
F.1 Identify Pollutants of Concern 35
F.2 Treatment Control BMP Selection 38
F.3 Sizing Criteria 38
F.4 Hydrologic Performance Standard – Alternative Compliance Approach 39
Section G: Implement Trash Capture BMPs 40
Section H: Source Control BMPs 43
Section I: Coordinate Submittal with Other Site Plans 44
Section J: Operation, Maintenance and Funding 46
Section K: Acronyms, Abbreviations and Definitions 47

List of Tables

Table A-1 Identification of Receiving Waters 9
Table A-2 Identification of Susceptibility to Hydromodification 9
Table A-3 Other Applicable Permits 10
Table C-1 DMA Identification 16
Table C-2 Type 'A', Self-Treating Areas 17
Table C-3 Type 'B', Self-Retaining Areas 18
Table C-4 Type 'C', Areas that Drain to Self-Retaining Areas 18
Table C-5 Type 'D', Areas Draining to BMPs 20
Table D-1 Infiltration Feasibility 22
Table D-2 Geotechnical Concerns for Onsite Infiltration 23
Table D-3 Evaluation of Biofiltration BMP Feasibility 24
Table D-4 Proprietary BMP Approval Requirement Summary 24
Table D-5 LID Prioritization Summary Matrix 25
Table D-6 Summary of Infeasibility Documentation 25
Table D-7 DCV Calculations for LID BMPs 26
Table D-8 LID BMP Sizing 28
Table E-1 Hydrologic Control BMP Sizing 30
Table E-2 Triad Assessment Summary 33
Table F-1 Summary of Approved 2010 303(d) listed waterbodies and associated pollutants of concern for the Riverside County SMR Region and downstream waterbodies. 36
Table F-2 Potential Pollutants by Land Use Type 37
Table F-3 Treatment Control BMP Selection 38
Table F-4 Treatment Control BMP Sizing 38
Table F-5 Offsite Hydrologic Control BMP Sizing 39
Table G-1 Sizing Trash Capture BMPs 41
Table G-2 Approx. precipitation depth/intensity values for calculation of Trash Capture Design Storm 41
Table G-3 Trash Capture BMPs 42
Table I-1 Construction Plan Cross-reference 44
Table I-2 Other Applicable Permits 45

List of Appendices

Appendix 1: Maps and Site Plans 54
Appendix 2: Construction Plans 55
Appendix 3: Soils Information 56
Appendix 4: Historical Site Conditions 57
Appendix 5: LID Feasibility Supplemental Information 58

Appendix 6: LID BMP Design Details 60
Appendix 7: Hydromodification 61
Appendix 8: Source Control 63
Appendix 9: O&M 65
Appendix 10: Educational Materials 67

Section A: Project and Site Information

Use the table below to compile and summarize basic site information that will be important for completing subsequent steps. Subsections A.1 through A.4 provide additional detail on documentation of additional project and site information. The Regional MS4 Permit has effectively removed the ability for a project to be grandfathered from WQMP requirements. Even if a project were able to meet all the requirements stated in Section 1.2 of the WQMP, the 2014 WQMP requirements would apply.

PROJECT INFORMATION	
Type of PDP:	New Development
Type of Project:	Mixed-Use
Planning Case Number:	21-0012
Rough Grade Permit No.:	TBD
Development Name:	Wildomar Crossings Mixed-Use Project
PROJECT LOCATION	
Latitude & Longitude (DMS):	33° 35' 53"N, 117° 14' 30"W
Project Watershed and Sub-Watershed:	Santa Margarita River, Murrieta Creek, Santa Margarita River (Lower), Santa Margarita River (Upper)
24-Hour 85th Percentile Storm Depth (inches):	0.69
Is project subject to Hydromodification requirements?	☒ Y ☐ N (Select based on Section A.3)
APN(s):	376-410-021, 376-410-015, 376-410-016, and 376-410-017
Map Book and Page No.:	Book 36, Page 69

PROJECT CHARACTERISTICS	
Proposed or Potential Land Use(s)	Mixed-Use
Proposed or Potential SIC Code(s)	5311, 5812, 6513
Existing Impervious Area of Project Footprint (SF)	30,000
Total area of proposed Impervious Surfaces within the Project Limits (SF)/or Replacement	342,250
Total Project Area (ac)	8.94
Does the project consist of offsite road improvements?	☒ Y ☐ N
Does the project propose to construct unpaved roads?	☐ Y ☒ N
Is the project part of a larger common plan of development (phased project)?	☐ Y ☒ N
Has preparation of Project-Specific WQMP included coordination with other site plans?	☐ Y ☒ N
EXISTING SITE CHARACTERISTICS	
Is the project located within any Multi-Species Habitat Conservation Plan area (MSHCP Criteria Cell?)	☐ Y ☒ N If "Y" insert Cell Number
Is a Geotechnical Report attached?	☒ Y ☐ N
If no Geotech. Report, list the Natural Resources Conservation Service (NRCS) soils type(s) present on the site (A, B, C and/or D)	N/A

Provide a brief description of the project: The project site encompasses 4 parcels, which total approximately 9.1 acres. The western most lot is developed on the southern end with a single-family home and an unoccupied out-structure. The three remaining lots are undeveloped although there is a cement foundation near the single-family home. All existing site improvements will be removed prior to grading operations.

The proposed project would consist of demolishing the existing structures and other site improvements and constructing a new mixed-use development. The **residential** portion of the project is proposed for 4.5 acres

of the site and includes 150 apartment units. The **commercial** portion of the project is proposed for the eastern 4.53 acres of the site and includes a market, shops, and restaurants. The 23,104 SF Sprouts Farmers Market and 4,000 SF attached building for shops are located on the north end of the commercial site.

The storm water will be treated by four modular wetland biofiltration BMP flow-rate based units and hydrodynamic separators before entering the underground detention chambers (refer to **Basin A** and **Basin B**). Outflow from each underground detention basin will be metered by an outlet control manhole with weir plate and will then discharge in County's Line 'GG', across Clinton Keith Road via a double 60-inch RCP storm drain into the RCFC&WCD regional drainage facility.

Paver and dirt roads are considered pervious for determining WQMP applicability.

A.1 Maps and Site Plans

When completing your Project-Specific WQMP, include a map of the Project vicinity and existing site. In addition, include all grading, drainage, landscape/plant palette and other pertinent construction plans in Appendix 2. At a **minimum**, your WQMP Site Plan should include the following:

- Vicinity and location maps
- Parcel Boundary and Project Footprint
- Existing and Proposed Topography
- Drainage Management Areas (DMAs)
- Proposed Structural Best Management Practices (BMPs)
- Drainage Paths
- Drainage infrastructure, inlets, overflows
- Source Control BMPs
- Site Design BMPs
- Buildings, Roof Lines, Downspouts
- Impervious Surfaces
- Pervious Surfaces (i.e., Landscaping)
- Standard Labeling
- Cross Section and Outlet details

Use your discretion on whether or not you may need to create multiple sheets or can appropriately accommodate these features on one or two sheets. Keep in mind that the co-permittee plan reviewer must be able to easily analyze your Project utilizing this template and its associated site plans and maps. Complete the checklists in Appendix 1 to verify that all exhibits and components are included.

A.2 Identify Receiving Waters

Using Table, A-1 below, list in order of upstream to downstream, the Receiving Waters that the Project site is tributary to. Continue to fill each row with the Receiving Water's 303(d) listed impairments (if any), designated Beneficial Uses, and proximity, if any, to a RARE Beneficial Use. Include a map of the Receiving Waters in Appendix 1. This map should identify the path of the stormwater discharged from the site all the way to the outlet of the Santa Margarita River to the Pacific Ocean. Use the most recent 303(d) list available from the State Water Resources Control Board Website.
(http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/)

Table A-1 Identification of Receiving Waters

Receiving Waters	USEPA Approved 303(d) List Impairments	Designated Beneficial Uses	Proximity to RARE Beneficial Use
Murrieta Creek	Metals, Nutrients, Pesticides, Toxicity	MUN, AGR, IND, PROC, GWR, RCC-2, WARM, WILD	NA
Santa Margarita River (upper)	Pathogens, Nutrients, Toxicity	REC 1, REC 2, WILD, RARE, MUN, AGR, IND, WARD, COLD	10.5
Santa Margarita River (Lower)	Nutrients, Toxicity	REC 1, REC 2, WILD, RARE, MUN, AGR, IND, WARD, COLD	22
Pacific Ocean	None	IND, NAV, REC 1, REC 2, COMM, WILD, RARE, SPWN, MAR, SHELL, BIOL, AQUA, MIGR	30.5

A.3 Drainage System Susceptibility to Hydromodification

Using Table, A-2 below, list in order of the point of discharge at the project site down to the Santa Margarita River[2], each drainage system or receiving water that the project site is tributary to. Continue to fill each row with the material of the drainage system, and any exemption (if applicable). Based on the results, summarize the applicable hydromodification performance standards that will be documented in Section E. Exempted categories of receiving waters include:

- Existing storm drains that discharge directly to water storage reservoirs, lakes, or enclosed embayments, or
- Conveyance channels whose bed and bank are concrete lined all the way from the point of discharge to water storage reservoirs, lakes, enclosed embayments, or the Pacific Ocean.
- Other water bodies identified in an approved WMAA (See Exhibit G to the WQMP)

Include a map exhibiting each drainage system and the associated susceptibility in Appendix 1.

Table A-2 Identification of Susceptibility to Hydromodification

Drainage System	Drainage System Material	Hydromodification Exemption	Hydromodification Exempt
Murrieta Creek	Natural Channel, Young alluvial valley deposits (Qyv)	Very Susceptible	☐ Y ☒ N
Santa Margarita River (Upper)	Natural Channel, Young alluvial valley deposits (Qyv)	Very Susceptible	☐ Y ☒ N
Santa Margarita River (Lower)	Natural Channel, Young alluvial valley deposits (Qyv)	Very Susceptible	☐ Y ☒ N
Summary of Performance Standards			

[2] Refer to Exhibit G of the WQMP for a map of exempt and potentially exempt areas. These maps are from the Draft SMR WMAA as of January 5, 2018 and will be replaced upon acceptance of the SMR WMAA.

Drainage System	Drainage System Material	Hydromodification Exemption	Hydromodification Exempt

☐ **Hydromodification Exempt** – Select if "Y" is selected in the Hydromodification Exempt column above, project is exempt from hydromodification requirements.

☒ **Not Exempt**-Select if "N" is selected in any row of the Hydromodification Exempt column above. Project is subject to hydrologic control requirements and may be subject to sediment supply requirements.

A.4 Additional Permits/Approvals required for the Project:

Table A-3 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act Section 401 Water Quality Certification	☐ Y	☒ N
US Army Corps of Engineers, Clean Water Act Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)*	☐ Y	☒ N

If yes is answered to any of the questions above, the co-permittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

Section B: Optimize Site Utilization (LID Principles)

Review of the information collected in Section 'A' will aid in identifying the principal constraints on site design and selection of LID BMPs as well as opportunities to reduce imperviousness and incorporate LID Principles into the site and landscape design. For example, **constraints** might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, utility locations or safety concerns. **Opportunities** might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for LID Bioretention BMPs), and differences in elevation (which can provide hydraulic head). Prepare a brief narrative for each of the site optimization strategies described below. This narrative will help you as you proceed with your Low Impact Development (LID) design and explain your design decisions to others.

Apply the following LID Principles to the layout of the PDP to the extent they are applicable and feasible. Putting thought upfront about how best to organize the various elements of a site can help to significantly reduce the PDP's potential impact on the environment and reduce the number and size of Structural LID BMPs that must be implemented. Integrate opportunities to accommodate the following LID Principles within the preliminary PDP site layout to maximize implementation of LID Principles.

Site Optimization

Complete checklist below to determine applicable Site Design BMPs for your site.

Project- Specific WQMP Site Design BMP Checklist

The following questions below are based upon Section 3.2 of the SMR WQMP will help you determine how to best optimize your site and subsequently identify opportunities and/or constraints, and document compliance.

SITE DESIGN REQUIREMENTS

Answer the following questions below by indicating "Yes," "No," or "N/A" (Not Applicable). Justify all "No" and "N/A" answers by inserting a narrative at the end of the section. The narrative should include identification and justification of any constraints that would prevent the use of those categories of LID BMPs. Upon identifying Site Design BMP opportunities, include these on your WQMP Site plan in Appendix 1.

☒ Yes ☐ No ☐ N/A

Did you identify and preserve existing drainage patterns?

Integrating existing drainage patterns into the site plan helps to maintain the time of concentration and infiltration rates of runoff, decreasing peak flows, and may also help preserve the contribution of Critical Coarse Sediment (i.e., Bed Sediment Supply) from the PDP to the Receiving Water. Preserve existing drainage patterns by:

- Minimizing unnecessary site grading that would eliminate small depressions, where appropriate add additional "micro" storage throughout the site landscaping.
- Where possible conform the PDP site layout along natural landforms, avoid excessive grading and disturbance of vegetation and soils, preserve or replicate the sites natural drainage features and patterns.
- Set back PDP improvements from creeks, wetlands, riparian habitats and any other natural water bodies.
- Use existing and proposed site drainage patterns as a natural design element, rather than using expensive impervious conveyance systems. Use depressed landscaped areas, vegetated buffers, and bioretention areas as amenities and focal points within the site and landscape design.

Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer.

☐ Yes ☒ No ☐ N/A

Did you identify and protect existing vegetation?

Identify any areas containing dense native vegetation or well-established trees, and try to avoid disturbing these areas. Soils with thick, undisturbed vegetation have a much higher capacity to store and infiltrate runoff than do disturbed soils. Reestablishment of a mature vegetative community may take decades. Sensitive areas, such as streams and floodplains should also be avoided.

- Define the development envelope and protected areas, identifying areas that are most suitable for development and areas that should be left undisturbed.
- Establish setbacks and buffer zones surrounding sensitive areas.
- Preserve significant trees and other natural vegetation where possible.

Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer. *The proposed cuts and fills are too large to preserve any existing vegetation over the site. The existing topography includes the need to remove and recompact undocumented fills and alluvium to prepare the site for development.*

Project- Specific WQMP Site Design BMP Checklist	
☐ Yes ☒ No ☐ N/A	**Did you identify and preserve natural infiltration capacity?** A key component of LID is taking advantage of a site's natural infiltration and storage capacity. A site survey and geotechnical investigation can help define areas with high potential for infiltration and surface storage. • Identify opportunities to locate LID Principles and Structural BMPs in highly pervious areas. Doing so will maximize infiltration and limit the amount of runoff generated. • Concentrate development on portions of the site with less permeable soils, and preserve areas that can promote infiltration.
Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer. *The site is within hydrologic soil group 'D' with low infiltration rate. Also, based from the soil's report, the site has minimal infiltration due to shallow sandstone bedrock layer.*	
☒ Yes ☐ No ☐ N/A	**Did you minimize impervious area?** Look for opportunities to limit impervious cover through identification of the smallest possible land area that can be practically impacted or disturbed during site development. • Limit overall coverage of paving and roofs. This can be accomplished by designing compact, taller structures, narrower and shorter streets and sidewalks, clustering buildings and sharing driveways, smaller parking lots (fewer stalls, smaller stalls, and more efficient lanes), and indoor or underground parking. • Inventory planned impervious areas on your preliminary site plan. Identify where permeable pavements, or other permeable materials, such as crushed aggregate, turf block, permeable modular blocks, pervious concrete or pervious asphalt could be substituted for impervious concrete or asphalt paving. This will help reduce the amount of Runoff that may need to be addressed through Structural BMPs. • Examine site layout and circulation patterns and identify areas where landscaping can be substituted for pavement, such as for overflow parking. • Consider green roofs. Green roofs are roofing systems that provide a layer of soil/vegetative cover over a waterproofing membrane. A green roof mimics pre-development conditions by filtering, absorbing, and evapotranspiring precipitation to help manage the effects of an otherwise impervious rooftop.
Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer. *The proposed development is proposed using pervious pavement at locations available. Also, drive aisles are at the minimum width which meets the City's requirement. Refer to WQMP Site Exhibit for more details.*	

Project- Specific WQMP Site Design BMP Checklist	
☒ Yes ☐ No ☐ N/A	**Did you identify and disperse runoff to adjacent pervious areas or small collection areas?** Look for opportunities to direct runoff from impervious areas to adjacent landscaping, other pervious areas, or small collection areas where such runoff may be retained. This is sometimes referred to as reducing Directly Connected Impervious Areas. • Direct roof runoff into landscaped areas such as medians, parking islands, planter boxes, etc., and/or areas of pervious paving. Instead of having landscaped areas raised above the surrounding impervious areas, design them as depressed areas that can receive Runoff from adjacent impervious pavement. For example, a lawn or garden depressed 3"-4" below surrounding walkways or driveways provides a simple but quite functional landscape design element. • Detain and retain runoff throughout the site. On flatter sites, smaller Structural BMPs may be interspersed in landscaped areas among the buildings and paving. • On hillside sites, drainage from upper areas may be collected in conventional catch basins and piped to landscaped areas and LID BMPs and/or Hydrologic Control BMPs in lower areas. Low retaining walls may also be used to create terraces that can accommodate LID BMPs. Wherever possible, direct drainage from landscaped slopes offsite and not to impervious surfaces like parking lots. • Reduce curb maintenance and provide for allowances for curb cuts. • Design landscaped areas or other pervious areas to receive and infiltrate runoff from nearby impervious areas. • Use Tree Wells to intercept, infiltrate, and evapotranspire precipitation and runoff before it reaches structural BMPs. Tree wells can be used to limit the size of Drainage Management Areas that must be treated by structural BMPs. Guidelines for Tree Wells are included in the Tree Well Fact Sheet in the LID BMP Design Handbook.
Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer. *Stormwater will be directed to landscaping area or pervious pavement area when feasible prior to enter the storm drain system.*	
☒ Yes ☐ No ☐ N/A	**Did you utilize native or drought tolerant species in site landscaping?** Wherever possible, use native or drought tolerant species within site landscaping instead of alternatives. These plants are uniquely suited to local soils and climate and can reduce the overall demands for potable water use associated with irrigation.
Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer. *The project is proposed to use native or drough tolerant speccities in site landscaping per City's requirement.*	

Project- Specific WQMP Site Design BMP Checklist

Did implement harvest and use of runoff?

Under the Regional MS4 Permit, Harvest and Use BMPs must be employed to reduce runoff on any site where they are applicable and feasible. However, Harvest and Use BMPs are effective for retention of stormwater runoff only when there is adequate demand for non-potable water during the wet season. If demand for non-potable water is not sufficiently large, the actual retention of stormwater runoff will be diminished during larger storms or during back-to-back storms.

For the purposes of planning level Harvest and Use BMP feasibility screening, Harvest and Use is only considered to be a feasible if the total average wet season demand for non-potable water is sufficiently large to use the entire DCV within 72 hours. If the average wet season demand for non-potable water is not sufficiently large to use the entire DCV within 72 hours, then Harvest and Use is not considered to be feasible and need not be considered further.

☐ Yes ☒ No ☐ N/A

The general feasibility and applicability of Harvest and Use BMPs should consider:

- Any downstream impacts related to water rights that could arise from capturing stormwater (not common).
- Conflicts with recycled water used – where the project is conditioned to use recycled water for irrigation, this should be given priority over stormwater capture as it is a year-round supply of water.
- Code Compliance - If a particular use of captured stormwater, and/or available methods for storage of captured stormwater would be contrary to building codes in effect at the time of approval of the preliminary Project-Specific WQMP, then an evaluation of harvesting and use for that use would not be required.
- Wet season demand – the applicant shall demonstrate, to the acceptance of the County of Riverside, that there is adequate demand for harvested water during the wet season to drain the system in a reasonable amount of time.

Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer. *There is minimal landscaping areas for the use of captured stormwater and is not practical.*

Did you keep the runoff from sediment producing pervious area hydrologically separate from developed areas that require treatment?

☐ Yes ☐ No ☒ N/A

Pervious area that qualifies as self-treating areas or off-site open space should be kept separate from drainage to structural BMPs whenever possible. This helps limit the required size of structural BMPs, helps avoid impacts to sediment supply, and helps reduce clogging risk to BMPs.

Discuss how this was included or provide a discussion/justification for "No" or "N/A" answer. *Pervious areas will be landscaped and not a producer of sediment. Finished grades in planters will be set 1" to 2" below the top of curb to impound water and prevent sediment transport.*

Section C: Delineate Drainage Management Areas (DMAs) & Green Streets

This section provides streamlined guidance and documentation of the DMA delineation and categorization process, for additional information refer to the procedure in Section 3.3 of the SMR WQMP which discusses the methods of delineating and mapping your project site into individual DMAs. Complete Steps 1 to 4 to successfully delineate and categorize DMAs.

Step 1: Identify Surface Types and Drainage Pathways

Carefully delineate pervious areas and impervious areas (including roofs) throughout site and identify overland flow paths and above ground and below ground conveyances. Also identify common points (such as BMPs) that these areas drain to.

Step 2: DMA Delineation

Use the information in Step 1 to divide the entire PDP site into individual, discrete DMAs. Typically, lines delineating DMAs follow grade breaks and roof ridge lines. Where possible, establish separate DMAs for each surface type (e.g., landscaping, pervious paving, or roofs). Assign each DMA a unique code and determine its size in square feet. The total area of your site should total the sum of all of your DMAs (unless water from outside the project limits comingles with water from inside the project limits, i.e. run-on). Complete Table C-1

Table C-1 DMA Identification

DMA Name or Identification	Surface Type(s)[1]	Area (Sq. Ft.)	DMA Type
DMA-A1	Mixed	117,615	To be Determined in Step 3
DMA-A2	Mixed	74,050	
DMA-B1	Mixed	141,130	
DMA-B2	Mixed	51,830	

Add Columns as Needed. Consider a separate DMA for Tree Wells or other LID principals like Self-Retaining areas are used for mitigation.

Step 3: DMA Classification

Determine how drainage from each DMA will be handled by using information from Steps 1 and 2 and by completing Steps 3.A to 3.C. Each DMA will be classified as one of the following four types:

- Type 'A': Self-Treating Areas:
- Type 'B': Self-Retaining Areas
- Type 'C': Areas Draining to Self-Retaining Areas
- Type 'D': Areas Draining to BMPs

Tree wells are considered Type 'B' areas, and their tributary areas limited to a 10:1 ratio are considered Type 'C' areas. If Tree wells are proposed, consider grading or other features to minimize the pervious runoff to the tree wells, to avoid overwhelming the trees. Type 'A', 'B', and 'C' are considered LID Principals that can be used to minimize or potentially eliminate structural LID BMPs.

If Tree wells are proposed, a landscape architect shall be consulted on the tree selection, since compliance will be determined based on the survival of the tree. The tree type should be noted on the WQMP site map.

Step 3.A – Identify Type 'A' Self-Treating Area

Indicate if the DMAs meet the following criteria by answering "Yes" or "No".

☐ Yes ☒ No	Area is undisturbed from their natural condition OR restored with Native and/or California Friendly vegetative covers.
☐ Yes ☒ No	Area is irrigated, if at all, with appropriate low water use irrigation systems to prevent irrigation runoff.
☐ Yes ☒ No	Runoff from the area will not comingle with runoff from the developed portion of the site, or across other landscaped areas that do not meet the above criteria.

If all answers indicate "Yes," complete Table C-2 to document the DMAs that are classified as Self-Treating Areas.

Table C-2 Type 'A', Self-Treating Areas

DMA Name or Identification	Area (Sq. Ft.)	Stabilization Type	Irrigation Type (if any)

Step 3.B – Identify Type 'B' Self-Retaining Area and Type 'C' Areas Draining to Self-Retaining Areas

Type 'B' Self-Retaining Area: A Self-Retaining Area is shallowly depressed 'micro infiltration' areas designed to retain the Design Storm rainfall that reaches the area, without producing any Runoff.

Indicate if the DMAs meet the following criteria by answering "Yes," "No," or "N/A".

☐ Yes ☐ No ☒ N/A	Inlet elevations of area/overflow drains, if any, should be clearly specified to be three inches or more above the low point to promote ponding.
☐ Yes ☐ No ☒ N/A	Soils will be freely draining to not create vector or nuisance conditions.
☐ Yes ☐ No ☒ N/A	Pervious pavements (e.g., crushed stone, porous asphalt, pervious concrete, or permeable pavers) can be self-retaining when constructed with a gravel base course four or more inches deep below any underdrain discharge elevation.

If all answers indicate "Yes," DMAs may be categorized as Type 'B', proceed to identify Type 'C' Areas Draining to Self-Retaining Areas.

Type 'C' Areas Draining to Self-Retaining Areas: Runoff from impervious or partially pervious areas can be managed by routing it to Self-Retaining Areas consistent with the LID Principle discussed in SMR WQMP Section 3.2.5 for 'Dispersing Runoff to Adjacent Pervious Areas'.
Indicate if the DMAs meet the following criteria by answering "Yes" or "No".

☐ Yes ☒ No The drainage from the tributary area must be directed to and dispersed within the Self-Retaining Area.

☐ Yes ☒ No The maximum ratio of Tributary Area to Self-Retaining area is (2 ÷ Impervious Fraction): 1

If all answers indicate "Yes," DMAs may be categorized as Type 'C'.

Complete Table C-3 and Table C-4 to identify Type 'B' Self-Retaining Areas and Type 'C' Areas Draining to Self-Retaining Areas.

Table C-3 Type 'B', Self-Retaining Areas

Self-Retaining Area				Type 'C' DMAs that are draining to the Self-Retaining Area		
DMA Name/ ID	Post-project surface type	Area (square feet) [A]	Storm Depth (inches) [B]	DMA Name / ID	[C] from Table C-4= [C]	Required Retention Depth (inches) [D] = $[B] + \frac{[B]\cdot[C]}{[A]}$

Note: Tree well areas can extend well beyond the drip line. The Tree Well area for open top types would include the shallow depressed area at the soil surface. The Tree Well area for Structural Soil Tree Wells or Suspended Pavement Tree Wells includes the area with open-graded gravel or void space over the structural soil or structural cells. Please specify type in this table and WQMP site map. See LID handbook Tree Well factsheet for additional details.

$$\left(\frac{2}{\boldsymbol{Impervious\ Fraction}}\right) : 1$$

(Tributary Area: Self-Retaining Area)

Table C-4 Type 'C', Areas that Drain to Self-Retaining Areas

DMA					Receiving Self-Retaining DMA		
DMA Name/ ID	Area (square feet) [A]	Post-project surface type	Runoff factor [B]	Product [C] = [A] x [B]	DMA name /ID	Area (square feet) [D]	Ratio [C]/[D]

Note: (See Section 3.3 of SMR WQMP) Ensure that partially pervious areas draining to a Self-Retaining area do not exceed the following ratio:

Step 3.B.1 – Document the use of Green Street Exemption (see Section 3.11 of the WQMP Guidance)

The Regional MS4 Permit specifies that projects that consist of **retrofitting or redevelopment of existing paved alleys, streets, or roads** may be exempted from classification as PDPs if they are designed and constructed in accordance with USEPA Green Streets Guidance. This does not apply for interior roads for PDP projects. For projects with road frontage improvements, Green Street standards can be used in the frontage road right-of-way. The remainder of the project is subject to full WQMP and Hydromodification requirements. See excerpt from Section 3.11 of the WQMP Guidance below:

3.11.4 BMP Sizing Targets for Applicable Green Streets Projects

Applicable green street projects are not required to meet the same sizing requirements for BMPs as other projects, but should attempt to meet a sizing target to the MEP. The following steps are used to size BMPs for applicable Green Streets projects:

1. Delineate drainage areas tributary to BMP locations and compute imperviousness.
2. Determine sizing goal by referring to sizing criteria presented in Section 2.3.2 (V_{BMP}).
3. Attempt to provide the target BMP sizing according to Step 2.
4. If the target criteria cannot be achieved, document the constraints that override the application of BMPs, and provide the largest portion of the sizing criteria that can be reasonably provided given constraints.

Even if BMPs cannot be sized to meet the target sizing criteria, it is still important to design the BMP inlet, energy dissipation, and overflow capacity for the full tributary area to ensure that flooding and scour is avoided. It is strongly recommended that BMPs which are designed to less than their target design volume be designed to bypass peak flows.

Table C-4.1 – Green Streets

DMA Name or ID	Street Name	BMP Sizing Targets Calculations and documenting constraints included in Appendix 6*
		☐ Yes ☐ No
		☐ Yes ☐ No
		☐ Yes ☐ No
		☐ Yes ☐ No
		☐ Yes ☐ No
*WQMP shall not be approved without calculations or documenting constraints for Green Street Exemption.		

Step 3.C – Identify Type 'D' Areas Draining to BMPs

Areas draining to BMPs are those that could not be fully managed through LID Principles (DMA Types A through C) and will instead drain to an LID BMP and/or a Conventional Treatment BMP designed to manage water quality impacts from that area, and Hydromodification where necessary.

Complete Table C-5 to document which DMAs are classified as Areas Draining to BMPs

Table C-5 Type 'D', Areas Draining to BMPs

DMA Name or ID	BMP Name or ID Receiving Runoff from DMA
DMA-A1	BMP 1 – Modular Wetland (8'x16')
DMA-A2	BMP 2 – Modular Wetland (8'x8')
DMA-B1	BMP 3 – Modular Wetland (8'x16')
DMA-B2	BMP 4 – Modular Wetland (8'x8')

Note: More than one DMA may drain to a single LID BMP; however, one DMA may not drain to more than one BMP.

Section D: Implement LID BMPs

The Regional MS4 Permit requires the use of LID BMPs to provide retention or treatment of the DCV and includes a BMP hierarchy which requires Full Retention BMPs (Priority 1) to be considered before Biofiltration BMPs (Priority 2) and Flow-Through Treatment BMPs and Alternative Compliance BMPs (Priority 3). LID BMP selection must be based on technical feasibility and should be considered early in the site planning and design process. Use this section to document the selection of LID BMPs for each DMA. Note that feasibility is based on the DMA scale and may vary between DMAs based on site conditions.

D.1 Full Infiltration Applicability

An assessment of the feasibility of utilizing full infiltration BMPs is required for all projects, *except where it can be shown that site design LID principles fully retain the DCV (i.e., all DMAs are Type A, B, or C), or where Harvest and Use BMPs fully retain the DCV. Check the following box if applicable:*

☐ Site design LID principles or Tree Wells fully retain the DCV (i.e., all DMAs are Type A, B, or C), (Proceed to Section E).

If the above box remains unchecked, perform a site-specific evaluation of the feasibility of Infiltration BMPs using each of the applicable criteria identified in Chapter 2.3.3 of the SMR WQMP and complete the remainder of Section D.1.

Geotechnical Report

A Geotechnical Report or Phase I Environmental Site Assessment may be required by the co-permittee to confirm present and past site characteristics that may affect the use of Infiltration BMPs. In addition, the co-permittee, at their discretion, may not require a geotechnical report for small projects as described in Chapter 2 of the SMR WQMP. If a geotechnical report has been prepared, include it in Appendix 3. In addition, if a Phase I Environmental Site Assessment has been prepared, include it in Appendix 4.

Infiltration Feasibility

Table D-1 below is meant to provide a simple means of assessing which DMAs on your site support Infiltration BMPs and is discussed in the SMR WQMP in Chapter 2.3.3. Check the appropriate box for each question and then list affected DMAs as applicable. If additional space is needed, add a row below the corresponding answer.

Table D-1 Infiltration Feasibility

Downstream Impacts (SMR WQMP Section 2.3.3.a)		
Does the project site…	**YES**	**NO**
…have any DMAs where infiltration would negatively impact downstream water rights or other Beneficial Uses[3]?		X
If Yes, list affected DMAs:		
Groundwater Protection (SMR WQMP Section 2.3.3.b)		
Does the project site…	**YES**	**NO**
…have any DMAs with industrial, and other land uses that pose a high threat to water quality, which cannot be treated by Bioretention BMPs? Or have DMAs with active industrial process areas?		X
If Yes, list affected DMAs:		
…have any DMAs with a seasonal high groundwater mark shallower than 10 feet?		X
If Yes, list affected DMAs:		
…have any DMAs located within 100 feet horizontally of a water supply well?		X
If Yes, list affected DMAs:		
…have any DMAs that would restrict BMP locations to within a 2:1 (horizontal: vertical) influence line extending from any septic leach line?		X
If Yes, list affected DMAs:		
…have any DMAs been evaluated by a licensed Geotechnical Engineer, or Environmental Engineer, who has concluded that the soils do not have adequate physical and chemical characteristics for the protection of groundwater, and has treatment provided by amended media layers in Bioretention BMPs been considered in evaluating this factor?		X
If Yes, list affected DMAs:		
Public Safety and Offsite Improvements (SMR WQMP Section 2.3.3.c)		
Does the project site…	**YES**	**NO**
…have any areas identified by the geotechnical report as posing a public safety risk where infiltration of stormwater could have a negative impact, such as potential seepage through fill conditions?		X
If Yes, list affected DMAs:		
Infiltration Characteristics For LID BMPs (SMR WQMP Section 2.3.3.d)		
Does the project site…	**YES**	**NO**
…have measured infiltration rates of less than 2.4 inches / hour? Riverside County may allow measure rates as low as 0.8in/hr to support infiltration BMPs, if the Engineer believes infiltration is appropriate and sustainable. Mark no, if this is the case.	X	
If Yes, list affected DMAs: All DMAs. Granite / bedrock encounter 4'-5' below finished surface per soil's report.		
Cut/Fill Conditions (SMR WQMP Section 2.3.3.e)		
Does the project site…	**YES**	**NO**
…have significant cut and/or fill conditions that would preclude in-situ testing of infiltration rates at the final infiltration surface?	X	
If Yes, list affected DMAs: All DMAs. Cuts get into bedrock layers.		
Other Site-Specific Factors (SMR WQMP Section 2.3.3.f)		
Does the project site…	**YES**	**NO**
…have DMAs where the geotechnical investigation discovered other site-specific factors that would preclude effective and/or safe infiltration?	X	
Describe here: Sandstone bedrock encountered 4' to 5' below finished surface per soil's report.		

If you answered "Yes" to any of the questions above for any DMA, Infiltration BMPs that rely solely on infiltration should not be used for those DMAs and you should proceed to the assessment for Biofiltration BMPs below. Biofiltration BMPs that provide partial infiltration may still be feasible and should be assessed in Section D.2. Summarize concerns identified in the Geotechnical Report, if any, that resulted in a "YES" response above in the table below.

[3] Such a condition must be substantiated by sufficient modeling to demonstrate an impact and would be subject to County of Riverside discretion. There is not a standardized method for assessing this criterion. Water rights evaluations should be site-specific.

Table D-2 Geotechnical Concerns for Onsite Infiltration

Type of Geotechnical Concern	DMAs Feasible (By Name or ID)	DMAs Infeasible (DMA-1A, DMA-1B, DMA-2)
Collapsible Soil		
Expansive Soil		
Slopes		
Liquefaction		
Low Infiltration Rate		DMA 1A, 1B, 2A, and 2B
Other		DMA 1A, 1B, 2A, and 2B

D.2 Biofiltration Applicability

This section should document the applicability of biofiltration BMPs for Type D DMAs that are not feasible for full infiltration BMPs. The key decisions to be documented in this section include:

1. Are biofiltration BMPs with partial infiltration feasible?
    a. Biofiltration BMPs must be designed to maximize incidental infiltration via a partial infiltration design unless it is demonstrated that this design is not feasible.
    b. These designs can be used at sites with low infiltration rates where other feasibility factors do not preclude incidental infiltration.

    Document summary in Table D-3.
2. If not, what are the factors that require the use of biofiltration with no infiltration? This may include:
    a. Geotechnical hazards
    b. Water rights issues
    c. Water balance issues
    d. Soil contamination or groundwater quality issues
    e. Very low infiltration rates (factored rates < 0.1 in/hr)
    f. Other factors, demonstrated to the acceptance of the local jurisdiction

    If this applies to any DMAs, then rationale must be documented in Table D-3.
3. Are biofiltration BMPs infeasible?
    a. If yes, then provide a site-specific analysis demonstrating the technical infeasibility of all LID BMPs has been performed and is included in Appendix 5. If you plan to submit an analysis demonstrating the technical infeasibility of LID BMPs, request a pre-submittal meeting with the co-permittee with jurisdiction over the Project site to discuss this option. Proceed below.

Table D-3 Evaluation of Biofiltration BMP Feasibility

DMA ID	Is Partial/ Incidental Infiltration Allowable? (Y/N)	Basis for Infeasibility of Partial Infiltration (provide summary and include supporting basis if partial infiltration not feasible)
DMA-A1, DMA-A2, DMA-B1, DMA-B2	Y	

Proprietary Biofiltration BMP Approval Criteria

Does the co-permittee allow Proprietary BMPs as an equivalent to Biofiltration, if specific criteria is met?

☒ Yes or ☐ No, if no skip to Section F to document your alternative compliance measures.

If the project will use proprietary BMPs as biofiltration BMPs, then this section and Appendix 5 shall be completed to document that the proprietary BMPs are selected in accordance with Section 2.3.6 of the SMR WQMP and County requirements. Proprietary Biofiltration BMPs must meet both of the following approval criteria:

1. Demonstrate equivalency to Biofiltration by completing the BMP Design worksheet and Proprietary Biofiltration Criteria, which is found in Appendix 5, including all supporting documentation, and
2. Obtain Co-Permittee concurrence for the long-term Operation and Maintenance Plan for the proprietary BMP. The Co-Permittee has the sole discretion to allow or reject Proprietary BMPs, especially if they will be maintained publicly through a CFD, CSA, or L&LMD.

Add additional rows to Table D-4 to document approval criteria are met for each type of BMP proposed.

Table D-4 Proprietary BMP Approval Requirement Summary

Proposed Proprietary Biofiltration BMP	Approval Criteria	Notes/Comments
Modular Wetland System by BioClean (BMP 1, BMP 2, BMP 3, and BMP 4)	BMP Design worksheets and Proprietary Biofiltration Criteria are completed in Appendix 5	☒ Yes or ☐ No
	Proposed BMP has an active TAPE GULD Certification for the project pollutants of concern[4] or equivalent 3rd party demonstrated performance.	☒ Yes or ☐ No
	Is there any media or cartridge required to maintain the function of the BMP sole-sourced or proprietary in any way? If yes, obtain explicit approval by the Agency. Potentially full replacement costs to a non-proprietary BMP needs to be considered.	☒ Yes or ☐ No If yes, provide the date of concurrence from the Co-Permittee. California State Water Resources Control Board
	☒ The BMP includes biological features including vegetation supported by engineered or other growing media.	Vegetation on top of the BMP system.

[4] Use Table F-1, F-2, and F-3 to identify and document the pollutants of concern and include these tables in Appendix 5.

D.3 Feasibility Assessment Summaries

From the Infiltration, Biofiltration with Partial Infiltration and Biofiltration with No Infiltration Sections above, complete Table D-5 below to summarize which LID BMPs are technically feasible, and which are not, based upon the established hierarchy.

Table D-5 LID Prioritization Summary Matrix

DMA Name/ID	LID Principles or Tree Wells	LID BMP Hierarchy			No LID (Alternative Compliance)
		1. Infiltration	2. Biofiltration with Partial Infiltration*	3. Biofiltration with No Infiltration*	
DMA - A1	☐	☐	☒	☐	☐
DMA- A2	☐	☐	☒	☐	☐
DMA - B1	☐	☐	☒	☐	☐
DMA - B2	☐	☐	☒	☐	☐
	☐	☐	☐	☐	☐
	☐	☐	☐	☐	☐

*Includes Proprietary Biofiltration, if accepted by the Co-Permittee.

For those DMAs where LID BMPs are not feasible, provide a narrative in Table D-6 below summarizing why they are not feasible, include your technical infeasibility criteria in Appendix 5, and proceed to Section F below to document Alternative Compliance measures for those DMAs. Recall that each proposed DMA must pass through the LID BMP hierarchy before alternative compliance measures may be considered.

This is based on the clarification letter titled "San Diego Water Board's Expectations of Documentation to Support a Determination of Priority Development Project Infiltration Infeasibility" (April 28, 2017, Via email from San Diego Regional Water Quality Control Board to San Diego County Municipal Storm Water Copermittees[5]).

Table D-6 Summary of Infeasibility Documentation

Question	Narrative Summary (include reference to applicable appendix/attachment/report, as applicable)
a) When in the entitlement process did a geotechnical engineer analyze the site for infiltration feasibility?	No. But the soil's report indicates the site has shallow sandstone bedrock which prohibits good infiltration.
b) When in the entitlement process were other investigations conducted (e.g., groundwater quality, water rights) to evaluate infiltration feasibility?	Yes, groundwater was not encountered on site borings.
c) What was the scope and results of testing, if conducted, or rationale for why testing was not needed to reach findings?	Soil's report indicates the site have shallow sandstone bedrock which prohibits infiltration.

[5] http://www.projectcleanwater.org/download/pdp-infiltration-infeasibility/

d) What public health and safety requirements affected infiltration locations?	N/A
e) What were the conclusions and recommendations of the geotechnical engineer and/or other professional responsible for other investigations?	N/A
f) What was the history of design discussions between the permittee and applicant for the proposed project, resulting in the final design determination related locations feasible for infiltration?	N/A
g) What site design alternatives were considered to achieve infiltration or partial infiltration on site?	N/A
h) What physical impairments (i.e., fire road egress, public safety considerations, utilities) and public safety concerns influenced site layout and infiltration feasibility?	N/A
i) What LID Principles (site design BMPs) were included in the project site design?	LID principles such as disperse to landscape areas, minimized impervious areas were implemented in the project site design.

D.4 LID BMP Sizing

Each LID BMP must be designed to ensure that the DCV will be captured by the selected BMPs with no discharge to the storm drain or surface waters during the DCV size storm. Infiltration BMPs must at minimum be sized to capture the DCV to achieve pollutant control requirements.

Biofiltration BMPs must at a minimum be sized to:

- Treat 1.5 times the DCV not reliably retained on site using a volume-base or flow-based sizing method, or
- Include static storage volume, including pore spaces and pre-filter detention volume, at least 0.75 times the portion of the DCV not reliably retained on site.

First**,** calculate the DCV for each LID BMP using the V_{BMP} worksheet in Appendix F of the LID BMP Design Handbook. Second**,** design the LID BMP to meet the required V_{BMP} using the methods included in Section 3 of the LID BMP Design Handbook. Utilize the worksheets found in the LID BMP Design Handbook or consult with the co-permittee to assist you in correctly sizing your LID BMPs. Use Table D-7 below to document the DCV each LID BMP. Provide the completed design procedure sheets for each LID BMP in Appendix 6. You may add additional rows to the table below as needed.

Table D-7 DCV Calculations for LID BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	BMP Name/ Identifier	*Design Rainfall Intensity (in/hr)*	*Design Flow Rate, Q_{BMP} (cfs)* *Q=[D]X[E] Divided by 43,560*	*Proposed Flow on Plans (cfs)*
	[A]		[B]	[C]	[A] x [C]				
DMA-A1	*117,615*	*Mixed*	*0.91*	*0.74*	*87,035*	*BMP-1*	*0.2* [E]	*0.399*	*0.462*

[E] is obtained from Exhibit A in the SMR WQMP
[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6.

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	BMP Name/ Identifier	*Design Rainfall Intensity (in/hr)*	*Design Flow Rate, Q_{BMP} (cfs)* *Q=[D]X[E] Divided by 43,560*	*Proposed Flow on Plans (cfs)*
	[A]		[B]	[C]	[A] x [C]				
DMA-A2	*74,050*	*Mixed*	*0.88*	*0.70*	*51,835*	*BMP-2*	*0.2* [E]	*0.238*	*0.240*

[E] is obtained from Exhibit A in the SMR WQMP
[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6.

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	BMP Name/ Identifier	*Design Rainfall Intensity (in/hr)*	*Design Flow Rate, Q_{BMP} (cfs)* *Q=[D]X[E] Divided by 43,560*	*Proposed Flow on Plans (cfs)*
	[A]		[B]	[C]	[A] x [C]				
DMA-B1	*141,130*	*Mixed*	*0.88*	*0.70*	*98,791*	*BMP-3*	*0.2* [E]	*0.454*	*0.462*

[E] is obtained from Exhibit A in the SMR WQMP
[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6.

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	BMP Name/ Identifier		*Design Flow Rate,* Q_{BMP} *(cfs)*	
	[A]		[B]	[C]	[A] x [C]		*Design Rainfall Intensity (in/hr)*	*Q=*[D]X[E] Divided by 43,560	*Proposed Flow on Plans (cfs)*
DMA-B2	*51,830*	*Mixed*	*0.88*	*0.70*	*36,281*	*BMP-4*	*0.2* [E]	*0.167*	*0.240*

[E] is obtained from Exhibit A in the SMR WQMP
[G] is obtained from a design procedure sheet, such as in LID BMP Design Handbook and placed in Appendix 6.

Complete Table D-8 below to document the Design Capture Volume and the Proposed Volume for each LID BMP. You can add rows to the table as needed. Alternatively, the Santa Margarita Hydrology Model (SMRHM) can be used to size LID BMPs to address the DCV and, if applicable, to size Hydrologic Control BMPs to meet the Hydrologic Performance Standard described in the SMR WQMP, as identified in Section E.

Table D-8 LID BMP Sizing

BMP Name / ID	DMA No.	BMP Type / Description	Design Capture Flowrate (ft^3 / S)	Proposed Flowrate (ft^3 / S)
BMP 1	DMA-A1	Modular Wetland System (8'x16')	0.399	0.462
BMP 2	DMA-A2	Modular Wetland System (8'x8')	0.238	0.240
BMP 3	DMA-B1	Modular Wetland System (8'x16')	0.454	0.462
BMP 4	DMA-B2	Modular Wetland System (8'x8')	0.167	0.240

If bioretention will include a capped underdrain, then include sizing calculations demonstrating that the BMP will meet infiltration sizing requirements with the underdrain capped and also meet biofiltration sizing requirements if the underdrain is uncapped.

Section E: Implement Hydrologic Control BMPs and Sediment Supply BMPs

See Appendix 7 for additional required information.

If a completed Table 1.2 demonstrates that the project is exempt from Hydromodification Performance Standards, specify N/A and proceed to Section G.

☐ N/A Project is Exempt from Hydromodification Performance Standards.

If a PDP is not exempt from hydromodification requirements than the PDP must satisfy the requirements of the performance standards for hydrologic control BMPs and Sediment Supply BMPs. The PDP may choose to satisfy hydrologic control requirements using onsite or offsite BMPs (i.e. Alternative Compliance). Sediment supply requirements cannot be met via alternative compliance. If N/A is not selected above, select one of the two options below and complete the applicable sections.

☐ Project is Not Hydromodification Exempt and chooses to implement Hydrologic Control and Sediment Supply BMPs Onsite (complete Section E).

☐ Project is Not Hydromodification Exempt and chooses to implement Hydrologic Control Requirements using Alternative Compliance (complete Section F). Selection of this option must be approved by the co-permittee.

E.1 Hydrologic Control BMP Selection

Capture of the DCV and achievement of the Hydrologic Performance Standard may be met by combined and/or separate structural BMPs. The user should consider the full suite of Hydrologic Control BMPs to manage runoff from the post-development condition and meet the Hydrologic Performance Standard identified in this section.

For the Preliminary WQMP, in lieu of preparing detailed routing calculations, the basin size may be estimated as the difference in volume between the pre-development and post-development hydrograph for the 10-year 24-hour storm event plus the Vbmp. This does not relieve the engineer of the responsibility for meeting the full Hydrologic Control requirements during final design.

The Hydrologic Performance Standard consists of matching or reducing the flow duration curve of post-development conditions to that of pre-existing, naturally occurring conditions, for the range of geomorphically significant flows (the low flow threshold runoff event up to the 10-year runoff event). 10% of the 2-year runoff event can be used for the low flow threshold without any justification. Higher low flow thresholds can be used with site-specific analysis, see Section 2.6.2.b of the WQMP guidance document. Select each of the hydrologic control BMP types that are applied to meet the above performance standard on the site.

☐ LID principles as defined in Section 3.2 of the SMR WQMP, including Tree Wells.

☐ Structural LID BMPs that may be modified or enlarged, if necessary, beyond the DCV.

☐ Structural Hydrologic Control BMPs that are distinct from the LID BMPs above. The LID BMP Design Handbook provides information not only on Hydrologic Control BMP design, but also on BMP design to meet the combined LID requirement and Hydrologic Performance Standard. The Handbook specifies the type of BMPs that can be used to meet the Hydrologic Performance Standard.

E.2 Hydrologic Control BMP Sizing

Hydrologic Control BMPs must be designed to ensure that the flow duration curve of the post-development DMA will not exceed that of the pre-existing, naturally occurring, DMA for the range of geomorphically significant flows. Using SMRHM, (or another acceptable continuous simulation model if approved by the Copermittee) the applicant shall demonstrate that the performance of the Hydrologic Control BMPs complies with the Hydrologic Performance Standard. Complete Table E-1 below and identify, for each DMA, the type of Hydrologic Control BMP, if the SMRHM model confirmed the management (Identified as "passed" in SMRHM), the total volume capacity of the Hydrologic Control BMP, the Hydrologic Control BMP footprint at top floor elevation, and the drawdown time of the Hydrologic Control BMP. SMRHM summary reports should be documented in Appendix 7. Refer to the SMRHM Guidance Document for additional information on SMRHM. You can add rows to the table as needed.

Table E-1 Hydrologic Control BMP Sizing

BMP Name / ID	DMA No.	BMP Type / Description	SMRHM* Passed	BMP Volume (ac-ft)	BMP Footprint (ac)	Drawdown time (hr)
Basin A	DMA-A1 and DMA-A2	Underground Modular Eco-Rain System	☒	0.456	0.080	24
Basin B	DMA-B1 and DMA-B2	Underground Modular Eco-Rain System	☒	0.472	0.083	24
			☐			
			☐			

**Or other continuous simulation model, compliant with the WQMP and Permit. If Tree Wells are proposed for some or all of the project, check the box for Tree Wells in Section E.1 and enter each Tree Well DMA in Table E-1 above for the BMP Name/ID, DMA No. and BMP Type/Description. For Tree Wells, leave SMRHM* Passed Column and the columns to the left blank.*

If a bioretention BMP with capped underdrain is used and hydromodification requirements apply, then sizing calculations must demonstrate that the BMP meets flow duration control criteria with the underdrain capped and uncapped. Both calculations must be included.

E.3 Implement Sediment Supply BMPs

The sediment supply performance standard applies to PDPs for which hydromodification applied that have the potential to impact Potential Critical Coarse Sediment Yield Areas. Refer to Exhibit G-1 of the WQMP Guidance Document to determine if there are onsite Potential Critical Coarse Sediment Yield Areas (based on on-going WMAA analysis) or Potential Sediment Source Areas (sites added through the Regional

Board review process). Select one of the two options below and include the Potential Critical Coarse Sediment Yield Area Exhibit showing your project location in Appendix 7.

☒ There are no mapped Potential Critical Coarse Sediment Yield Areas or Potential Sediment Source Areas on the site. Include a copy of Exhibit G - CCSY & PSS Areas in Appendix 7, with the project location marked. If the project is outside of the "Potential Critical Coarse Sediment Yield Areas and Potential Sediment Source Areas" then check this box. The Sediment Supply Performance Standard is met with no further action is needed.

☐ There are mapped Potential Critical Coarse Sediment Yield Areas or Potential Sediment Source Areas on the site, the Sediment Supply Performance Standard will be met through Option 1 (E.3.1) or Option 2 (E.3.2) below.

☐ **E.3.1 Option 1: Avoid Potential Critical Coarse Sediment Yield Areas and Potential Sediment Source Areas**

The simplest approach for complying with the Sediment Supply Performance Standard is to avoid impacts to areas identified as Potential Critical Coarse Sediment Yield Areas or Potential Sediment Supply Areas. If a portion of PDP is identified as a Potential Critical Coarse Sediment Yield Area or a Potential Sediment Source Area, that PDP may still achieve compliance with the Sediment Supply Performance Standards if Potential Critical Coarse Sediment Yield Areas and Potential Sediment Supply Areas are avoided, i.e. areas are not developed and thereby delivery of Critical Coarse Sediment to the receiving waters is not impeded by site developments.

Provide a narrative describing how the PDP has avoided impacts to Potential Critical Coarse Sediment Yield Areas and/or Potential Sediment Source Areas below.

If it is not feasible to avoid these areas, proceed to Option 2 to complete a Site-Specific Critical Coarse Sediment Analysis.

☐ **E.3.2 Option 2: Site-Specific Critical Coarse Sediment Analysis**

Perform a stepwise assessment to ensure the pre-project source(s) of Critical Coarse Sediment (i.e., Bed Sediment Supply) is maintained:

Step 1: Identify if the site is an actual verified Critical Coarse Sediment Yield Area supplying Bed Sediment Supply to the receiving channel

☐ **Step 1.A** – Is the Bed Sediment of onsite streams similar to that of receiving streams?

Rate the similarity:
☐ High
☐ Medium
☐ Low

Results from the geotechnical and sieve analysis to be performed both onsite and in the receiving channel should be documented in Appendix 7. Of particular interest, the results of the sieve analysis, the soil erodibility factor, a description of the topographic relief of the project area, and the lithology of onsite soils should be reported in Appendix 7.

☐ **Step 1.B** – Are onsite streams capable of delivering Bed Sediment Supply from the site, if any, to the receiving channel?

Rate the potential:
☐ High
☐ Medium
☐ Low

Results from the analyses of the sediment delivery potential to the receiving channel should be documented in Appendix 7 and identify, at a minimum, the Sediment Source, the distance to the receiving channel, the onsite channel density, the project watershed area, the slope, length, land use, and rainfall intensity.

☐ **Step 1.C** – Will the receiving channel adversely respond to a change in Bed Sediment Load?

Rate the need for bed sediment supply:
☐ High
☐ Medium
☐ Low

Results from the in-stream analysis to be performed both onsite should be documented in Appendix 7. The analysis should, at a minimum, quantify the bank stability and the degree of incision, provide a gradation of the Bed Sediment within the receiving channel, and identify if the channel is sediment supply-limited.

☐ **Step 1.D** – Summary of Step 1

Summarize in Table E.3 the findings of Step 1 and associate a score (in parenthesis) to each step. The sum of the three individual scores determines if a stream is a significant contributor to the receiving stream.

- Sum is equal to or greater than eight - Site is a significant source of sediment bed material – all on-site streams must be preserved or by-passed within the site plan. The applicant shall proceed to Step 2 for all onsite streams.
- Sum is greater than five but lower than eight. Site is a source of sediment bed material – some of the on-site streams must be preserved (with identified streams noted). The applicant shall proceed to Step 2 for the identified streams only.
- Sum is equal to or lower than five. Site is not a significant source of sediment bed material. The applicant may advance to Section F.

Table E-2 Triad Assessment Summary

Step	Rating			Total Score
1.A	☐ High (3)	☐ Medium (2)	☐ Low (1)	
1.B	☐ High (3)	☐ Medium (2)	☐ Low (1)	
1.C	☐ High (3)	☐ Medium (2)	☐ Low (1)	
Significant Source Rating of Bed Sediment to the receiving channel(s)				

Step 2: Avoid Development of Critical Coarse Sediment Yield Areas, Potential Sediment Sources Areas, and Preserve Pathways for Transport of Bed Sediment Supply to Receiving Waters

Onsite streams identified as a actual verified Critical Coarse Sediment Yield Areas should be avoided in the site design and transport pathways for Critical Coarse Sediment should be preserved

Check those that apply:

☐ The site design does avoid all onsite channels identified as actual verified Critical Coarse Sediment Yield Areas ***AND***

☐ The drainage design bypasses flow and sediment from onsite upstream drainages identified as actual verified Critical Coarse Sediment Yield Areas to maintain Critical Coarse Sediment supply to receiving waters

(If both are yes, the applicant may disregard subsequent steps of Section E.3 and directly advance directly to Section G)

Or -

Provide in Appendix 7 a site map that identifies all onsite channels and highlights those onsite channels that were identified as a Significant Source of Bed Sediment. The site map shall demonstrate, if feasible, that the site design avoids those onsite channels identified as a Significant Source of Bed Sediment. In addition, the applicant shall describe the characteristics of each onsite channel identified as a Significant Source of Bed Sediment. If the design plan cannot avoid the onsite channels, please provide a rationale for each channel individually.

The site map shall demonstrate that the drainage design bypasses those onsite channels that supply Critical Coarse Sediment to the receiving channel(s). In addition, the applicant shall describe the characteristics of each onsite channel identified as an actual verified Critical Coarse Sediment Yield Area.

Identified Channel #1 - Insert narrative description here

Identified Channel #2 - Insert narrative description here

☐ The site design **does NOT avoid** all onsite channels identified as actual verified Critical Coarse Sediment Yield Areas

OR

☐ The project blocks the potential for Critical Coarse Sediment from migrating to receiving waters.

(If either of these are the case, the applicant shall continue completing this section).

E.3.3 Sediment Supply BMPs to Result in No Net Impact to Downstream Receiving Waters

If impacts to Critical Coarse Sediment Yield Areas cannot be avoided, sediment supply BMPs must be implemented such there is no net impact to receiving waters. Sediment supply BMPs may consist of approaches that permit flux of bed sediment supply from Critical Coarse Sediment Yield Areas within the project boundary. This approach is subject to acceptance by the County of Riverside. It may require extensive documentation and analysis by qualified professionals to support this demonstration.

Appendix H of the San Diego Model BMP Design Manual provides additional information on site-specific investigation of Critical Coarse Sediment Supply areas.

http://www.projectcleanwater.org/download/2018-model-bmp-design-manual/

If applicable, insert narrative description here

Documentation of sediment supply BMPs should be detailed in Appendix 7.

Section F: Alternative Compliance

Alternative Compliance may be used to achieve compliance with pollutant control and/or hydromodification requirements for a given PDP. Alternative Compliance may be used under two scenarios, check the applicable box if the PDP is proposing to use Alternative Compliance to satisfy all or a portion of the Pollutant Control and/or Hydrologic Control requirements (but not sediment supply requirements)

☐ If it is not feasible to fully implement Infiltration or Biofiltration BMPs at a PDP site, Flow-Through Treatment Control BMPs may be used to treat pollutants contained in the portion of DCV not reliably retained on site and Alternative Compliance measures must also be implemented to mitigate for those pollutants in the DCV that are not retained or removed on site prior to discharging to a receiving water.

☐ Alternative Compliance is selected to comply with either pollutant control or hydromodification flow control requirements even if complying with these requirements is potentially feasible on-site. If such voluntary Alternative Compliance is implemented, Flow-Through Treatment Control BMPs must still be used to treat those pollutants in the portion of the DCV not reliably retained on site prior to discharging to a receiving water.

Refer to Section 2.7 of the SMR WQMP and consult the Local Jurisdiction for currently available Alternative Compliance pathways. Coordinate with the co-permittee if electing to participate in Alternative Compliance and complete the sections below to document implementation of the Flow-Through BMP component of the program.

F.1 Identify Pollutants of Concern

The purpose of this section is to help you appropriately plan for mitigating your Pollutants of Concern in lieu of implementing LID BMPs and to document compliance and.

Utilize Table A-1 from Section A, which noted your project's Receiving Waters, to identify impairments for Receiving Waters (including downstream receiving waters) by completing Table F-1. Table F-1 includes the watersheds identified as impaired in the Approved 2010 303(d) list; check box corresponding with the PDP's receiving water. The most recent 303(d) lists are available from the State Water Resources Control Board website:
https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml).https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml.

Table F-1 Summary of Approved 2010 303(d) listed waterbodies and associated pollutants of concern for the Riverside County SMR Region and downstream waterbodies.

	Water Body	Nutrients[1]	Metals[2]	Toxicity	Bacteria and Pathogens	Pesticides and Herbicides	Sulfate	Total Dissolved Solids
☐	De Luz Creek	X	X				X	
☐	Long Canyon Creek		X		X	X		
☒	Murrieta Creek	X	X	X		X		
☐	Redhawk Channel	X	X		X	X		X
☐	Santa Gertudis Creek	X	X		X	X		
☐	Santa Margarita Estuary	X						
☒	Santa Margarita River (Lower)	X			X			
☒	Santa Margarita River (Upper)	X		X				
☐	Temecula Creek	X	X	X		X		X
☐	Warm Springs Creek	X	X		X	X		

[1] Nutrients include nitrogen, phosphorus and eutrophic conditions caused by excess nutrients.

[2] Metals includes copper, iron, and manganese.

Use Table F-2 to identify the pollutants identified with the project site. Indicate the applicable PDP Categories and/or Project Features by checking the boxes that apply. If the identified General Pollutant Categories are the same as those listed for your Receiving Waters, then these will be your Pollutants of Concern; check the appropriate box or boxes in the last row.

Table F-2 Potential Pollutants by Land Use Type

Priority Development Project Categories and/or Project Features (check those that apply)		General Pollutant Categories									
		Bacterial Indicators	Metals	Nutrients	Pesticides	Toxic Organic Compounds	Sediments	Trash & Debris	Oil & Grease	Total Dissolved Solids	Sulfate
☐	Detached Residential Development	P	N	P	P	N	P	P	P	N	N
☒	Attached Residential Development	P	N	P	P	N	P	P	P[(2)]	N	N
☒	Commercial/Industrial Development	P[(3)]	P[(7)]	P[(1)]	P[(1)]	P	P[(1)]	P	P	N	N
☐	Automotive Repair Shops	N	P	N	N	P[(4, 5)]	N	P	P	N	N
☐	Restaurants (>5,000 ft^2)	P	N	N	P[(1)]	N	N	P	P	N	N
☐	Hillside Development (>5,000 ft^2)	P	N	P	P	N	P	P	P	N	N
☐	Parking Lots (>5,000 ft^2)	P[(6)]	P[(7)]	P[(1)]	P[(1)]	P[(4)]	P	P	P	N	N
☐	Streets, Highways, and Freeways	P[(6)]	P[(7)]	P[(1)]	P[(1)]	P[(4)]	P	P	P	N	N
☐	Retail Gasoline Outlets	N	P[(7)]	N	N	P[(4)]	N	P	P	N	N
Project Priority Pollutant(s) of Concern		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

P = Potential

N = Not Potential

(1) A potential Pollutant if non-native landscaping exists or is proposed onsite; otherwise not expected

(2) A potential Pollutant if the project includes uncovered parking areas; otherwise not expected

(3) A potential Pollutant is land use involving animal waste products; otherwise not expected

(4) Including petroleum hydrocarbons

(5) Including solvents

(6) Bacterial indicators are routinely detected in pavement runoff

(7) A potential source of metals, primarily copper and zinc. Iron, magnesium, and aluminum are commonly found in the environment and are commonly associated with soils, but are not primarily of anthropogenic stormwater origin in the municipal environment.

F.2 Treatment Control BMP Selection

Treatment Control BMPs typically provide proprietary treatment mechanisms to treat potential Pollutants in runoff, but do not sustain significant biological processes. Treatment Control BMPs must be selected to address the Project Priority Pollutants of Concern (identified above) and meet the acceptance criteria described in Section 2.3.7 of the SMR WQMP. Documentation of acceptance criteria must be included in Appendix 6. In addition, ensure that proposed Treatment Control BMPs are properly identified on the WQMP Site Plan in Appendix 1.

Table F-3 Treatment Control BMP Selection

Selected Treatment Control BMP Name or ID[1]	Priority Pollutant(s) of Concern to Mitigate[2]	Removal Efficiency Percentage[3]

[1] Treatment Control BMPs must not be constructed within Receiving Waters. In addition, a proposed Treatment Control BMP may be listed more than once if they possess more than one qualifying pollutant removal efficiency.
[2] Cross Reference Table E.1 above to populate this column.
[3] As documented in a Copermittee Approved Study and provided in Appendix 6.

F.3 Sizing Criteria

Utilize Table F-4 below to appropriately size flow-through BMPs to the DCV, or Design Flow Rate, as applicable. Please reference Chapter 3.5.1 of the SMR WQMP for further information.

Table F-4 Treatment Control BMP Sizing

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	***BMP A1***	
	[A]		[B]	[C]	[A] x [C]		
						Design Storm (in)	*Design Flow Rate (cfs)*
	$A_T = \Sigma[A]$				$\Sigma = [D]$	[E] 0.2	$[F] = \frac{[D]x[E]}{[G]}$

[B], [C] is obtained as described in Section 2.6.1.b from the SMR WQMP
[E] either 0.2 inches or 2 times the 85th percentile hourly rainfall intensity
[G] = 43,560,.

F.4 Hydrologic Performance Standard – Alternative Compliance Approach

Alternative compliance options are only available if the governing co-permittee has acknowledged the infeasibility of onsite Hydrologic Control BMPs and approved an alternative compliance approach. See Section 3.5 and 3.6 of the SMR WQMP.

Select the pursued alternative and describe the specifics of the alternative:

☐ Offsite Hydrologic Control Management within the same channel system

☐ In-Stream Restoration Project

For Offsite Hydrologic Control BMP Option

Each Hydrologic Control BMP must be designed to ensure that the flow duration curve of the post-development DMA will not exceed that of the pre-existing, naturally occurring, DMA by more than ten percent over a one-year period. Using SMRHM, the applicant shall demonstrate that the performance of each designed Hydrologic Control BMP is equivalent with the Hydrologic Performance Standard for onsite conditions. Complete Table F-5 below and identify, for each Hydrologic Control BMP, the equivalent DMA the Hydrologic Control BMP mitigates, that the SMRHM model passed, the total volume capacity of the BMP, the BMP footprint at top floor elevation, and the drawdown time of the BMP. SMRHM summary reports for the alternative approach should be documented in Appendix 7. Refer to the SMRHM Guidance Document for additional information on SMRHM. You can add rows to the table as needed.

Table F-5 Offsite Hydrologic Control BMP Sizing

BMP Name / Type	Equivalent DMA (ac)	SMRHM Passed	BMP Volume (ac-ft)	BMP Footprint (ac)	Drawdown time (hr)
		☐			
		☐			
		☐			
		☐			

For Instream Restoration Option

Attach to Appendix 7 the technical report detailing the condition of the receiving channel subject to the proposed hydrologic and sediment regimes. Provide the full design plans for the in-stream restoration project that have been approved by the Copermittee. Utilize the San Diego Regional Water Quality Equivalency Guidance Document.

Section G: Implement Trash Capture BMPs

The Santa Margarita Regional Board has required Full Trash Capture compliance thru Order No. R9-2017-007. For the Santa Margarita Watershed, the County is requiring Track 1 full trash capture compliance for projects proposing the following uses as part of their development after **December 3, 2018**.

- High-density residential: all land uses with at least ten (10) developed dwelling units/acre.
- Industrial: land uses where the primary activities on the developed parcels involve product manufacture, storage, or distribution (e.g., manufacturing businesses, warehouses, equipment storage lots, junkyards, wholesale businesses, distribution centers, or building material sales yards).
- Commercial: land uses where the primary activities on the developed parcels involve the sale or transfer of goods or services to consumers (e.g., business or professional buildings, shops, restaurants, theaters, vehicle repair shops, etc.).
- Mixed urban: land uses where high-density residential, industrial, and/or commercial land uses predominate collectively (i.e., are intermixed).
- Public transportation stations: facilities or sites where public transit agencies' vehicles load or unload passengers or goods (e.g., bus stations and stops).

Riverside County Maintenance is generally supportive of United Storm Water – Connector Pipe Screens or equivalent. Equivalent systems or alternative designs shall be on the State of California Approved Trash Capture Device List and requires approval by the Transportation Department for maintenance. Riverside County is developing Trash Capture Device Standards, which are expected to be added to the Transportation Plan Check Policies and Guidelines when available. Design calculations are not expected to be required if the project uses standard sizes per the County's Trash Capture Device Standards. Until the Trash Capture Device Standards are available and the project uses standard sizes, the project shall complete the following tables and furnish hydraulic analysis calculating the flowrate in the catch basin does not exceed the flowrate capacity of the trash capture device in a fully clogged condition.

Trash Capture BMPs may be applicable to Type 'D' DMAs, as defined in Section 2.3.4 of the SMR WQMP. Trash Capture BMPs are designed to treat Q_{TRASH}, the runoff flow rate generated during the 1-year 1-hour precipitation depth. Utilize Table G-1 to size Trash Capture BMP. Refer to Table G-3 to determine the Trash Capture Design Storm Intensity (E).

Table G-1 Sizing Trash Capture BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Hydrodynamic Separator (BMP A)*	
	[A]		[B]	[C]	[A] x [C]		
DMA-A1	117,615	Mixed	0.91	0.74	87,035	*Trash Capture Design Storm Intensity (in)*	*Trash Capture Design Flow Rate (cubic feet or cfs)*
DMA-A2	69,700	Mixed	0.91	0.74	51,578		
	$A_T = \Sigma[A]$ 187,315				$\Sigma=$ [D] 138,613	[E] 0.37	$[F] = \frac{[D]x[E]}{[G]}$ ***1.177***

[B], [C] is obtained as described in Section 2.6.1.b from the SMR WQMP
[G] = 43,560

Table G-2 Sizing Trash Capture BMPs

DMA Type/ID	DMA Area (square feet)	Post-Project Surface Type	Effective Impervious Fraction, I_f	DMA Runoff Factor	DMA Areas x Runoff Factor	*Hydrodynamic Separator (BMP B)*	
	[A]		[B]	[C]	[A] x [C]		
DMA-B1	*141,130*	*Mixed*	*0.88*	*0.70*	*98,791*	*Trash Capture Design Storm Intensity (in)*	*Trash Capture Design Flow Rate (cubic feet or cfs)*
DMA-B2	*51,830*	*Mixed*	*0.88*	*0.70*	*36,281*		
	$A_T = \Sigma[A]$ 192,960				$\Sigma=$ [D] 135,072	[E] 0.37	$[F] = \frac{[D]x[E]}{[G]}$ ***1.147***

[B], [C] is obtained as described in Section 2.6.1.b from the SMR WQMP
[G] = 43,560

Table G-3 Approximate precipitation depth/intensity values for calculation of the Trash Capture Design Storm

City	1-year 1-hour Precipitation Depth/Intensity (inches/hr)
Murrieta	0.47
Temecula	0.50
Wildomar	0.37

Use Table G-4 to summarize and document the selection and sizing of Trash Capture BMPs.

Table G-4 Trash Capture BMPs

BMP Name / ID	DMA No(s)	BMP Type / Description	Required Trash Capture Flowrate (cfs)	Provided Trash Capture Flowrate (cfs)[1]
BMP A	DMA-A1 and A2	Aqua-Swirl Model AS-3S	1.177	2.10
BMP B	DMA-B1 and B2	Aqua-Swirl Model AS-3S	1.147	2.10

[1] For connector pipe screens, the Trash Capture Flowrate shall be based on a fully clogged condition for the screen, where the water level is at the top of the screen. Then determined the Flowrate based on weir equation (Qweir = C x L x H^(2/3), where C = 3.4). The height used to calculate the weir flow rate shall maintain a 6" freeboard to the invert of the catch basin opening at the road. This analysis is meant to replicate the hydraulic analysis used in the County's Full Trash Capture Device Standards.

Section H: Source Control BMPs

Section H need only be completed at the Preliminary WQMP phase if source control is critical to the project successfully handling the anticipated pollutants.

Source Control BMPs include permanent, structural features that may be required in your Project plans, such as roofs over and berms around trash and recycling areas, and Operational BMPs, such as regular sweeping and "housekeeping," that must be implemented by the site's occupant or user. The Maximum Extent Practicable (MEP) standard typically requires both types of BMPs. In general, Operational Source Control BMPs cannot be substituted for a feasible and effective Structural Source Control BMP. Complete checklist below to determine applicable Source Control BMPs for your site.

Project-Specific WQMP Source Control BMP Checklist

All development projects must implement Source Control BMPs. Source Control BMPs are used to minimize pollutants that may discharge to the MS4. Refer to Chapter 3 (Section 3.8) of the SMR WQMP for additional information. Complete Steps 1 and 2 below to identify Source Control BMPs for the project site.

Step 1: Identify Pollutant Sources

Review project site plans and identify the applicable pollutant sources. "Yes" indicates that the pollutant source is applicable to project site. "No" indicates that the pollutant source is not applicable to project site.

☒ Yes ☐ No	Storm Drain Inlets		☐ Yes ☒ No	Outdoor storage areas	
☐ Yes ☒ No	Floor Drains		☐ Yes ☒ No	Material storage areas	
☐ Yes ☒ No	Sump Pumps		☐ Yes ☒ No	Fueling areas	
☐ Yes ☒ No	Pets Control/Herbicide Application		☒ Yes ☐ No	Loading Docks	
☒ Yes ☐ No	Food Service Areas		☐ Yes ☒ No	Fire Sprinkler Test/Maintenance water	
☒ Yes ☐ No	Trash Storage Areas		☒ Yes ☐ No	Plazas, Sidewalks and Parking Lots	
☐ Yes ☒ No	Industrial Processes		☒ Yes ☐ No	Pools, Spas, Fountains and other water features	
☐ Yes ☒ No	Vehicle and Equipment Cleaning and Maintenance/Repair Areas				

Step 2: Required Source Control BMPs

List each Pollutant source identified above in column 1 and fill in the corresponding Structural Source Control BMPs and Operational Control BMPs by referring to the Stormwater Pollutant Sources/Source Control Checklist included in Appendix 8. The resulting list of structural and operational source control BMPs must be implemented as long as the associated sources are present on the project site. Add additional rows as needed.

Pollutant Source	Structural Source Control BMP	Operational Source Control BMP
On-site storm drain inlets	Mark all inlets with the words "Only Rain Down the Storm Drain" or similar.	Maintain and periodically repaint or replace markings. Provide stormwater pollution prevention information to new site owners, lessees, or operators. Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."

Trash Storage Area		Trash container areas shall be screened or walled to prevent off-site transport of trash. See Fact Sheet SD-32, "Trash Storage Areas," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
Loading Docks		Move loaded and unloaded items indoors as soon as possible. See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
Plazas, sidewalks, and parking lots		Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect wash water containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.
Pools, Spas (Resid)		Perform regular maintenance. Filter backflush to be determined.

Section I: Coordinate Submittal with Other Site Plans

For Final WQMPs, populate Table I-1 below to assist the plan checker in an expeditious review of your project. During construction and at completion, County of Riverside inspectors will verify the installation of BMPs against the approved plans. The first two columns will contain information that was prepared in previous steps, while the last column will be populated with the corresponding plan sheets. This table is to be completed with the submittal of your final Project-Specific WQMP.

Table I-1 Construction Plan Cross-reference

BMP No. or ID	BMP Identifier and Description	Corresponding Plan Sheet(s)

Note that the updated table — or Construction Plan WQMP Checklist — is **only a reference tool** to facilitate an easy comparison of the construction plans to your Project-Specific WQMP. The co-permittee with jurisdiction over the Project site can advise you regarding the process required to propose changes to the approved Project-Specific WQMP.

Use Table I-2 to identify other applicable permits that may impact design of the site. If yes is answered to any of the items below, the co-permittee may require proof of approval/coverage from those agencies as applicable including documentation of any associated requirements that may affect this Project-Specific WQMP.

Table I-2 Other Applicable Permits

Agency	Permit Required	
State Department of Fish and Game, 1602 Streambed Alteration Agreement	☐ Y	☒ N
State Water Resources Control Board, Clean Water Act Section 401 Water Quality Certification	☐ Y	☒ N
US Army Corps of Engineers, Clean Water Act Section 404 Permit	☐ Y	☒ N
US Fish and Wildlife, Endangered Species Act Section 7 Biological Opinion	☐ Y	☒ N
Statewide Construction General Permit Coverage	☒ Y	☐ N
Statewide Industrial General Permit Coverage	☐ Y	☒ N
Western Riverside MSHCP Consistency Approval (e.g., JPR, DBESP)	☐ Y	☒ N
Other *(please list in the space below as required)*	☐ Y	☐ N

Section J: Operation, Maintenance and Funding

Applicant is required to state the intended responsible party for BMP Operation, Maintenance and Funding at the Preliminary WQMP phase. The remaining requirements as outlined above are required for Final WQMP only.

The co-permittee with jurisdiction over the Project site will periodically verify that BMPs on your Project are maintained and continue to operate as designed. To make this possible, the co-permittee will require that you include in Appendix 9 of this Project-Specific WQMP:

1. A means to finance and implement maintenance of BMPs in perpetuity, including replacement cost.
2. Acceptance of responsibility for maintenance from the time the BMPs are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the Stormwater BMPs you have selected.
4. Figures delineating and designating pervious and impervious areas, location, and type of Stormwater BMP, and tables of pervious and impervious areas served by each facility. Geo-locating the BMPs using a coordinate system of latitude and longitude is recommended to help facilitate a future statewide database system.
5. A separate list and location of self-retaining areas or areas addressed by LID Principles that do not require specialized Operations and Maintenance or inspections but will require typical landscape maintenance as noted in Chapter 5, in the SMR WQMP. Include a brief description of typical landscape maintenance for these areas.

The co-permittee with jurisdiction over the Project site will also require that you prepare and submit a detailed BMP Operation and Maintenance Plan that sets forth a maintenance schedule for each of the BMPs built on your site. An agreement assigning responsibility for maintenance and providing for inspections and certification may also be required.

Details of these requirements and instructions for preparing a BMP Operation and Maintenance Plan are in Chapter 5 of the SMR WQMP.

Maintenance Mechanism: TBD

Will the proposed BMPs be maintained by a Homeowners' Association (HOA) or Property Owners Association (POA)?

☒ Y ☐ N

HOA for residential portion of the development. CC&Rs for the commercial site.

Include your Operation and Maintenance Plan and Maintenance Mechanism in Appendix 9, **see Appendix 9 for additional instructions.** Additionally, include all pertinent forms of educational materials for those personnel that will be maintaining the proposed BMPs within this Project-Specific WQMP in Appendix 10.

Section K: Acronyms, Abbreviations and Definitions

Regional MS4 Permit	Order No. R9-2013-0001 as amended by Order No. R9-2015-0001 and Order No. R9-2015-0100 an NPDES Permit issued by the San Diego Regional Water Quality Control Board.
Applicant	Public or private entity seeking the discretionary approval of new or replaced improvements from the Copermittee with jurisdiction over the project site. The Applicant has overall responsibility for the implementation and the approval of a Priority Development Project. The WQMP uses consistently the term "user" to refer to the applicant such as developer or project proponent. The WQMP employs also the designation "user" to identify the Registered Professional Civil Engineer responsible for submitting the Project-Specific WQMP, and designing the required BMPs.
Best Management Practice (BMP)	Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal storm water permits, BMPs are typically used in place of numeric effluent limits.
BMP Fact Sheets	BMP Fact Sheets are available in the LID BMP Design Handbook. Individual BMP Fact Sheets include sitting considerations, and design and sizing guidelines for seven types of structural BMPs (infiltration basin, infiltration trench, permeable pavement, harvest-and-use, bioretention, extended detention basin, and sand filter).
California Stormwater Quality Association (CASQA)	Publisher of the California Stormwater Best Management Practices Handbooks, available at www.cabmphandbooks.com.
Conventional Treatment Control BMP	A type of BMP that provides treatment of stormwater runoff. Conventional treatment control BMPs, while designed to treat particular Pollutants, typically do not provide the same level of volume reduction as LID BMPs, and commonly require more specialized maintenance than LID BMPs. As such, the Regional MS4 Permit and this WQMP require the use of LID BMPs wherever feasible, before Conventional Treatment BMPs can be considered or implemented.
Copermittees	The Regional MS4 Permit identifies the Cities of Murrieta, Temecula, and Wildomar, the County, and the District, as Copermittees for the SMR.

County	The abbreviation refers to the County of Riverside in this document.
CEQA	California Environmental Quality Act - a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.
CIMIS	California Irrigation Management Information System - an integrated network of 118 automated active weather stations all over California managed by the California Department of Water Resources.
CWA	Clean Water Act - is the primary federal law governing water pollution. Passed in 1972, the CWA established the goals of eliminating releases of high amounts of toxic substances into water, eliminating additional water pollution by 1985, and ensuring that surface waters would meet standards necessary for human sports and recreation by 1983. CWA Section 402(p) is the federal statute requiring NPDES permits for discharges from MS4s.
CWA Section 303(d) Waterbody	Impaired water in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of urban runoff to these water bodies by the Copermittees is significant because these discharges can cause or contribute to violations of applicable water quality standards.
Design Storm	The Regional MS4 Permit has established the 85th percentile, 24-hour storm event as the "Design Storm". The applicant may refer to Exhibit A to identify the applicable Design Storm Depth (D85) to the project.
DCV	Design Capture Volume (DCV) is the volume of runoff produced from the Design Storm to be mitigated through LID Retention BMPs, Other LID BMPs and Volume Based Conventional Treatment BMPs, as appropriate.
Design Flow Rate	The design flow rate represents the minimum flow rate capacity that flow-based conventional treatment control BMPs should treat to the MEP, when considered.
DCIA	Directly Connected Impervious Areas - those impervious areas that are hydraulically connected to the MS4 (i.e. street curbs, catch basins, storm drains, etc.) and thence to the structural BMP without flowing over pervious areas.
Discretionary Approval	A decision in which a Copermittee uses its judgment in deciding whether and how to carry out or approve a project.
District	Riverside County Flood Control and Water Conservation District.

DMA	A Drainage Management Area - a delineated portion of a project site that is hydraulically connected to a common structural BMP or conveyance point. The Applicant may refer to Section 3.3 for further guidelines on how to delineate DMAs.
Drawdown Time	Refers to the amount of time the design volume takes to pass through the BMP. The specified or incorporated drawdown times are to ensure that adequate contact or detention time has occurred for treatment, while not creating vector or other nuisance issues. It is important to abide by the drawdown time requirements stated in the fact sheet for each specific BMP.
Effective Area	Area which 1) is suitable for a BMP (for example, if infiltration is potentially feasible for the site based on infeasibility criteria, infiltration must be allowed over this area) and 2) receives runoff from impervious areas.
ESA	An Environmental Sensitive Area (ESA) designates an area "in which plants or animals life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments". (Reference: California Public Resources Code § 30107.5).
ET	Evapotranspiration (ET) is the loss of water to the atmosphere by the combined processes of evaporation (from soil and plant surfaces) and transpiration (from plant tissues). It is also an indicator of how much water crops, lawn, garden, and trees need for healthy growth and productivity
FAR	The Floor Area Ratio (FAR) is the total square feet of a building divided by the total square feet of the lot the building is located on.
Flow-Based BMP	Flow-based BMPs are conventional treatment control BMPs that are sized to treat the design flow rate.
FPPP	Facility Pollution Prevention Plan
HCOC	Hydrologic Condition of Concern - Exists when the alteration of a site's hydrologic regime caused by development would cause significant impacts on downstream channels and aquatic habitats, alone or in conjunction with impacts of other projects.
HMP	Hydromodification Management Plan – Plan defining Performance Standards for PDPs to manage increases in runoff discharge rates and durations.
Hydrologic Control BMP	BMP to mitigate the increases in runoff discharge rates and durations and meet the Performance Standards set forth in the HMP.
HSG	Hydrologic Soil Groups – soil classification to indicate the minimum rate of infiltration obtained for bare soil after prolonged wetting. The HSGs are A (very low runoff potential/high infiltration rate), B, C, and D (high runoff potential/very low infiltration rate)

Hydromodification	The Regional MS4 Permit identifies that increased volume, velocity, frequency and discharge duration of storm water runoff from developed areas has the potential to greatly accelerate downstream erosion, impair stream habitat in natural drainages, and negatively impact beneficial uses.
JRMP	A separate Jurisdictional Runoff Management Plan (JRMP) has been developed by each Copermittee and identifies the local programs and activities that the Copermittee is implementing to meet the Regional MS4 Permit requirements.
LID	Low Impact Development (LID) is a site design strategy with a goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques. LID site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of storm water runoff.
LID BMP	A type of stormwater BMP that is based upon Low Impact Development concepts. LID BMPs not only provide highly effective treatment of stormwater runoff, but also yield potentially significant reductions in runoff volume – helping to mimic the pre-project hydrologic regime, and also require less ongoing maintenance than Treatment Control BMPs. The applicant may refer to Chapter 2.
LID BMP Design Handbook	The LID BMP Design Handbook was developed by the Copermittees to provide guidance for the planning, design and maintenance of LID BMPs which may be used to mitigate the water quality impacts of PDPs within the County.
LID Bioretention BMP	LID Bioretention BMPs are bioretention areas are vegetated (i.e., landscaped) shallow depressions that provide storage, infiltration, and evapotranspiration, and provide for pollutant removal (e.g., filtration, adsorption, nutrient uptake) by filtering stormwater through the vegetation and soils. In bioretention areas, pore spaces and organic material in the soils help to retain water in the form of soil moisture and to promote the adsorption of pollutants (e.g., dissolved metals and petroleum hydrocarbons) into the soil matrix. Plants use soil moisture and promote the drying of the soil through transpiration. The Regional MS4 Permit defines "retain" as to keep or hold in a particular place, condition, or position without discharge to surface waters.
LID Biofiltration BMP	BMPs that reduce stormwater pollutant discharges by intercepting rainfall on vegetative canopy, and through incidental infiltration and/or evapotranspiration, and filtration, and other biological and chemical processes. As stormwater passes down through the planting soil, pollutants are filtered, adsorbed, biodegraded, and sequestered by the soil and plants, and collected through an underdrain.

LID Harvest and Reuse BMP	BMPs used to facilitate capturing Stormwater Runoff for later use without negatively impacting downstream water rights or other Beneficial Uses.
LID Infiltration BMP	BMPs to reduce stormwater runoff by capturing and infiltrating the runoff into in-situ soils or amended onsite soils. Typical LID Infiltration BMPs include infiltration basins, infiltration trenches and pervious pavements.
LID Retention BMP	BMPs to ensure full onsite retention without runoff of the DCV such as infiltration basins, bioretention, chambers, trenches, permeable pavement and pavers, harvest and reuse.
LID Principles	Site design concepts that prevent or minimize the causes (or drivers) of post-construction impacts, and help mimic the pre-development hydrologic regime.
MEP	Maximum Extent Practicable - standard established by the 1987 amendments to the CWA for the reduction of Pollutant discharges from MS4s. Refer to Attachment C of the Regional MS4 Permit for a complete definition of MEP.
MF	Multi-family – zoning classification for parcels having 2 or more living residential units.
MS4	Municipal Separate Storm Sewer System (MS4) is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.
New Development Project	Defined by the Regional MS4 Permit as 'Priority Development Projects' if the project, or a component of the project meets the categories and thresholds described in Section 1.1.1.
NPDES	National Pollution Discharge Elimination System - Federal program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.
NRCS	Natural Resources Conservation Service

PDP	Priority Development Project - Includes New Development and Redevelopment project categories listed in Provision E.3.b of the Regional MS4 Permit.
Priority Pollutants of Concern	Pollutants expected to be present on the project site and for which a downstream water body is also listed as Impaired under the CWA Section 303(d) list or by a TMDL.
Project-Specific WQMP	A plan specifying and documenting permanent LID Principles and Stormwater BMPs to control post-construction Pollutants and stormwater runoff for the life of the PDP, and the plans for operation and maintenance of those BMPs for the life of the project.
Receiving Waters	Waters of the United States.
Redevelopment Project	The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing existing roadways; new sidewalk construction, pedestrian ramps, or bike lane on existing roads; and routine replacement of damaged pavement, such as pothole repair. Project that meets the criteria described in Section 1.
Runoff Fund	Runoff Funds have not been established by the Copermittees and are not available to the Applicant. If established, a Runoff Fund will develop regional mitigation projects where PDPs will be able to buy mitigation credits if it is determined that implementing onsite controls is infeasible.
San Diego Regional Board	San Diego Regional Water Quality Control Board - The term "Regional Board", as defined in Water Code section 13050(b), is intended to refer to the California Regional Water Quality Control Board for the San Diego Region as specified in Water Code Section 13200. State agency responsible for managing and regulating water quality in the SMR.
SCCWRP	Southern California Coastal Water Research Project
Site Design BMP	Site design BMPs prevent or minimize the causes (or drivers) of post-construction impacts, and help mimic the pre-development hydrologic regime.
SF	Parcels with a zoning classification for a single residential unit.
SMC	Southern California Stormwater Monitoring Coalition
SMR	The Santa Margarita Region (SMR) represents the portion of the Santa Margarita Watershed that is included within the County of Riverside.

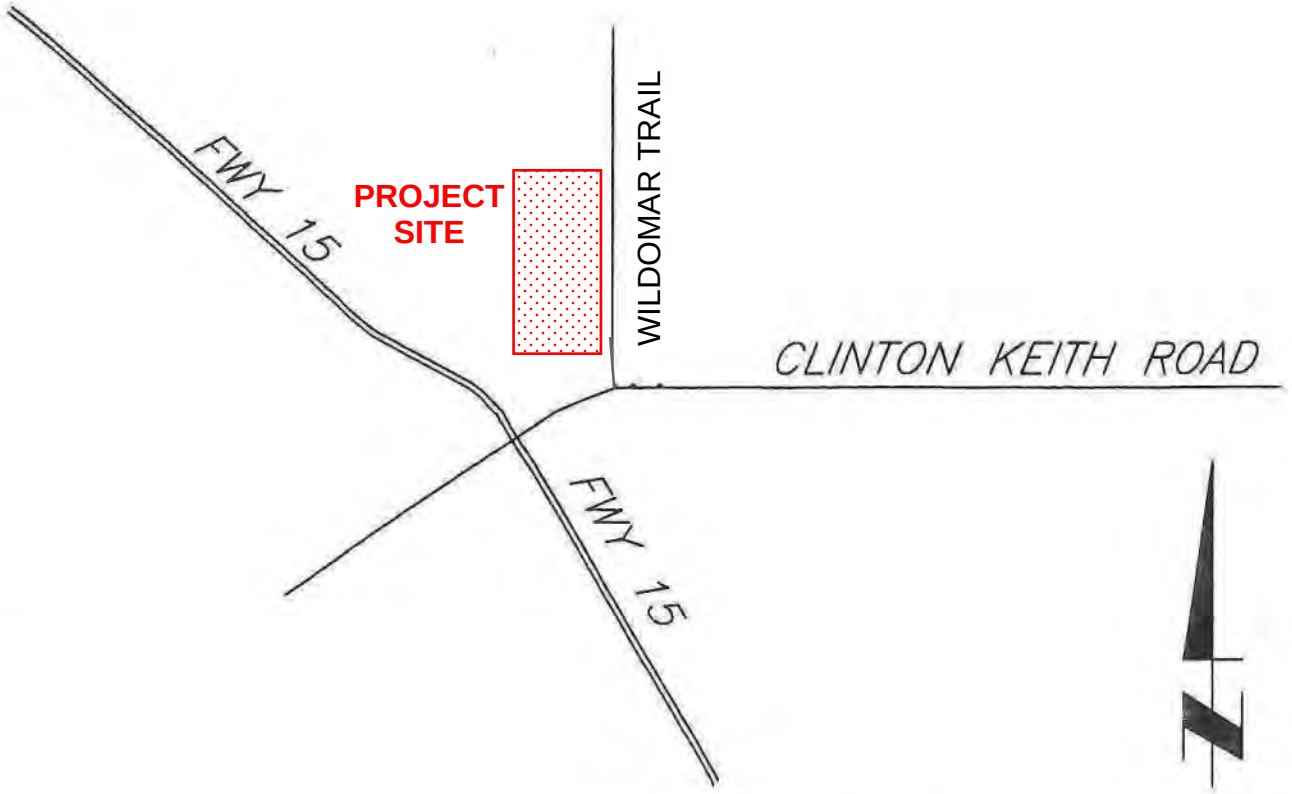
Source Control BMP	Source Control BMPs land use or site planning practices, or structural or nonstructural measures that aim to prevent runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between Pollutants and runoff.
Structural BMP	Structures designed to remove pollutants from stormwater runoff and mitigate hydromodification impacts.
SWPPP	Storm Water Pollution Prevention Plan
Tentative Tract Map	Tentative Tract Maps are required for all subdivision creating five (5) or more parcels, five (5) or more condominiums as defined in Section 783 of the California Civil Code, a community apartment project containing five (5) or more parcels, or for the conversion of a dwelling to a stock cooperative containing five (5) or more dwelling units.
TMDL	Total Maximum Daily Load - the maximum amount of a Pollutant that can be discharged into a waterbody from all sources (point and non-point) and still maintain Water Quality Standards. Under CWA Section 303(d), TMDLs must be developed for all waterbodies that do not meet Water Quality Standards after application of technology-based controls.
USEPA	United States Environmental Protection Agency
Volume-Based BMP	Volume-Based BMPs applies to BMPs where the primary mode of pollutant removal depends upon the volumetric capacity such as detention, retention, and infiltration systems.
WQMP	Water Quality Management Plan
Wet Season	The Regional MS4 Permit defines the wet season from October 1 through April 30.

Appendix 1: Maps and Site Plans

Location Map, WQMP Site Plan and Receiving Waters Map

Complete the checklist below to verify all exhibits and components are included in the Project-Specific WQMP. Refer Section 4 of the SMR WQMP and Section D of this Template.

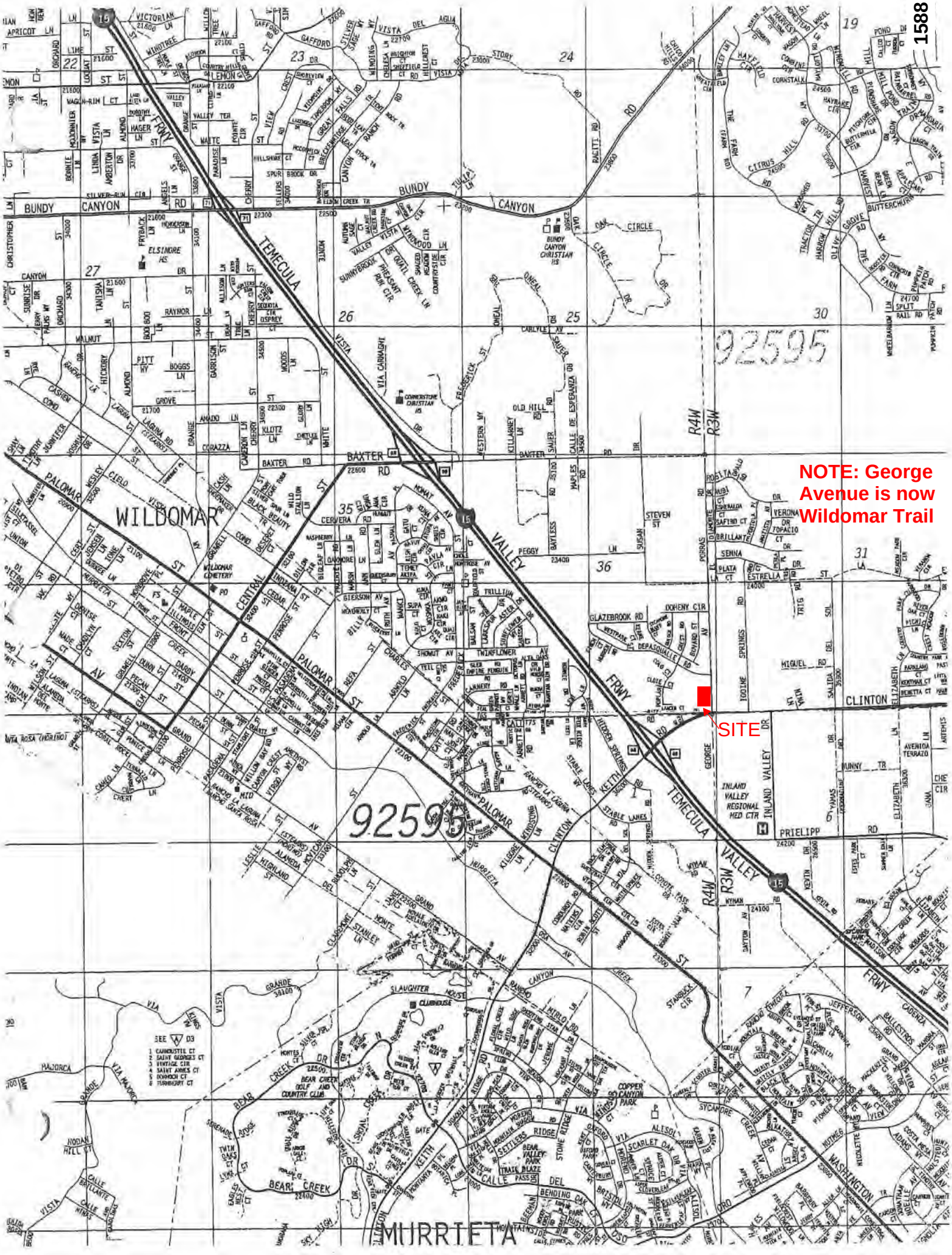
Map and Site Plan Checklist
Indicate all Maps and Site Plans are included in your Project-Specific WQMP by checking the boxes below.
☒ Vicinity and Location Map
☒ Existing Site Map (unless exiting conditions are included in WQMP Site Plan)
☒ WQMP Site Plan
☒ Parcel Boundary and Project Footprint
☒ Existing and Proposed Topography & Drainage Management Areas (DMAs)
☒ Proposed Structural Best Management Practices (BMPs), with cross sections
☒ Drainage Paths
☒ Drainage infrastructure, inlets, overflows
☒ Source Control & Site Design BMPs (notes can be used for BMPs that can't be depicted)
☒ Buildings, Roof Lines, Downspouts
☒ Impervious Surfaces
☒ Pervious Surfaces (i.e. Landscaping)
☒ Standardized Labeling



T.6S.,R.3W SEC 31
T.G. COORD: PG 897, F-7/G-7 2006 ED.

VICINITY MAP

NOT TO SCALE


1588
NOTE: George Avenue is now Wildomar Trail
SITE
WILDOMAR
MURRIETA
92595
92595
TEMECULA VALLEY FRWY
BUNDY CANYON RD
BAXTER RD
PALOMAR ST
CLINTON
PRIELIPP RD
INLAND VALLEY REGIONAL MED CTR
R4W
R3W

EXISTING SITE MAP





AQUA-SWIRL® SIZING
(CERTIFIED TRASH CAPTURE DEVICE)

Aqua-Swirl® Model	Trash Capture Treatment Capacity (cfs)
AS-2s	1.1
AS-3s	2.1
AS-4s	3.5
AS-5s	4.4
AS-6s	6.3
AS-7s	8.6
AS-8s	11.2
AS-9s	14.2
AS-10s	17.5
AS-11s	21.2
AS-12s	25.2
AS-13s	29.6
AS-XXs	Custom

LEGEND:

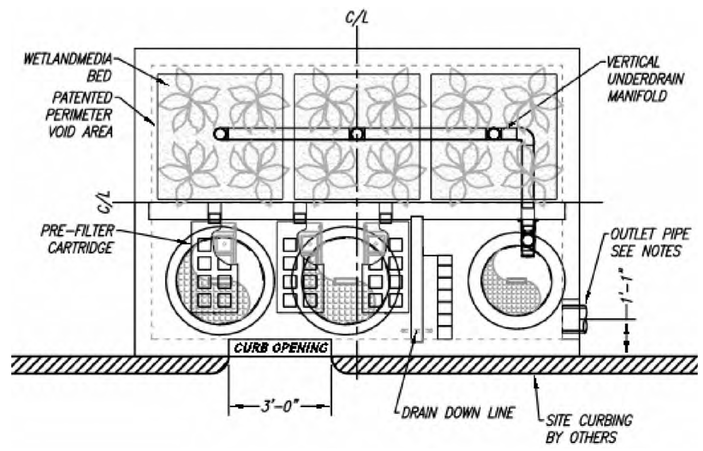
- DA-1 / 1.00 — TREATMENT AREA DESIGNATION / ACREAGE
- FLOW PATH
- DMA AREA BOUNDARY

SOURCE CONTROL BMPS:

- [A] *STORM DRAIN INLET WITH FILTER INSERT*
- [D] *LANDSCAPE/OUTDOOR PESTICIDE USE*
- [G] REFUSE AREAS
  NOTE: TRASH ENCLOSURES ARE GRADED TO PREVENT RUNOFF AND RUNON.
- [P] *PLAZA, SIDEWALKS, AND PARKING LOTS*



TYPICAL AQUAL SWIRL HYDRODYNAMIC SEPARATOR
NOT TO SCALE



TYPICAL MODULAR WETLAND SYSTEM
NOT TO SCALE

N

50' 25' 0' 50' 100'
GRAPHIC SCALE: 1 INCH = 50 FT

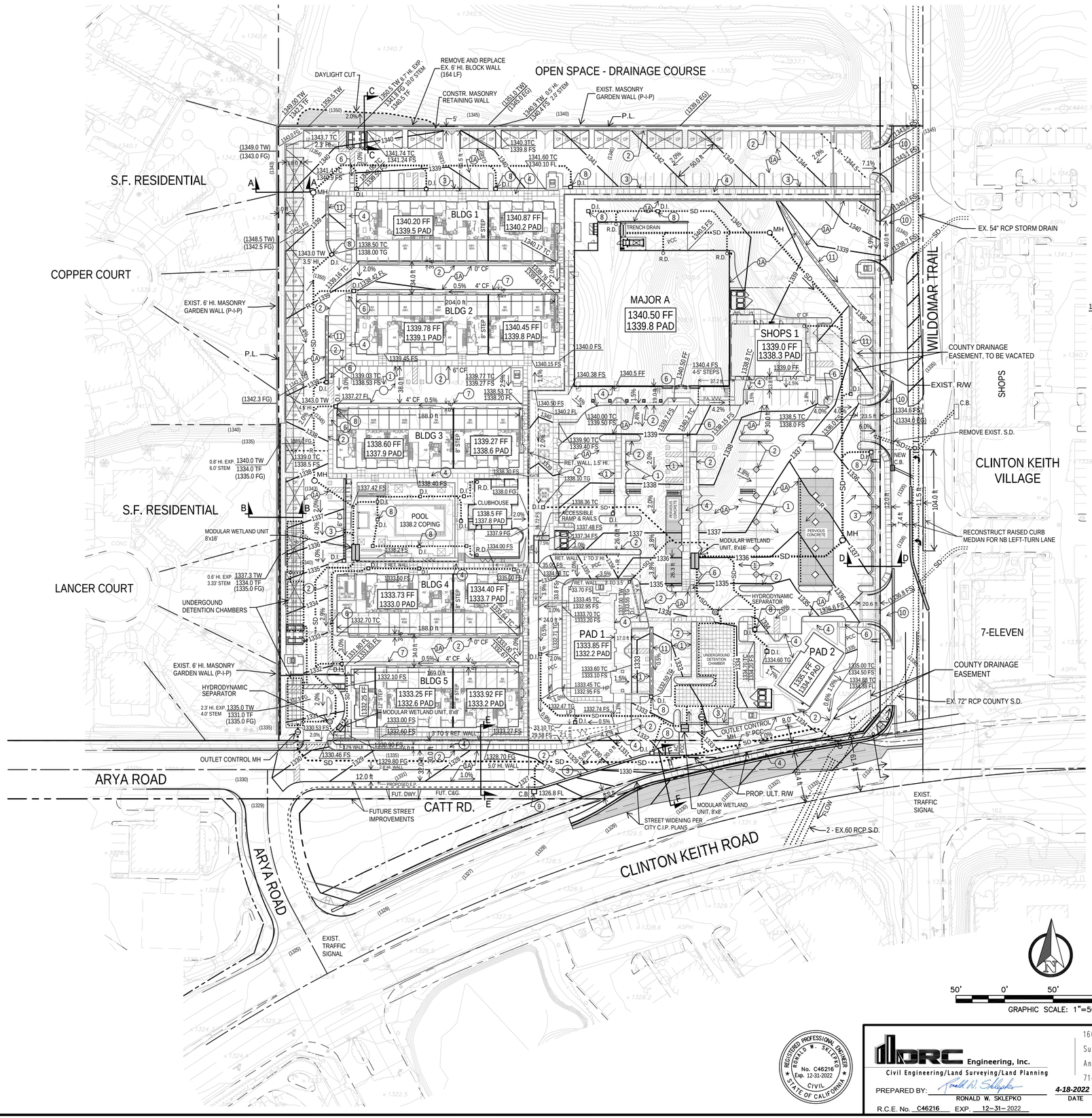
WILDOMAR CROSSING
MIXED-USE PROJECT
WQMP SITE PLAN
SHEET: 1
WILDOMAR, CALIFORNIA

JRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
6840 INDIANA AVENUE
SUITE 215
RIVERSIDE, CA 92506
714-685-6860

FILENAME: M:\2021\21-994 Sage Investco Wildomar Retail\WQMP\21-994 WQMP Exhibit.dwg, LAST SAVED ON: Apr 20 2022 5:17pm, PLOTTED BY: YANG, ON: Apr 20 2022 5:37pm, CFG:

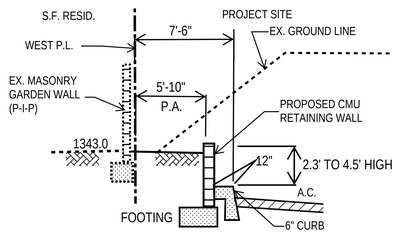
Appendix 2: Construction Plans

*The latest set of Grading, Drainage Plans, and Street Improvement plans **shall be included***

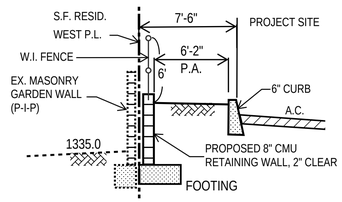


CONSTRUCTION NOTES

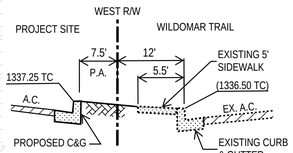
1. CONSTRUCT 3" AC/10" AB, PARKING STALLS
1A. CONSTRUCT 4" AC/14" AB, DRIVE AISLES
2. CONSTRUCT 6" PCC CURB ONLY
3. CONSTRUCT 6" PCC CURB & 18" GUTTER
4. CONSTRUCT 4" PCC SIDEWALK.
5. CONSTRUCT ACCESSIBLE CURB–CUT RAMP.
6. CONSTRUCT 3' WIDE TRUNCATED DOMES.
7. CONSTRUCT 4" MOUNTABLE CURB & GUTTER
8. INSTALL SD. DRAIN INLET GRATE AND DRAIN BOX.
9. INSTALL CATCH BASIN.
10. CONSTRUCT PCC COMMERCIAL DRIVEWAY PER CITY STD.
11. CONSTRUCT PCC RIBBON GUTTER, 3' WIDE



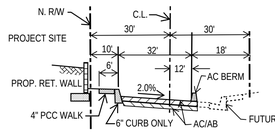
SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

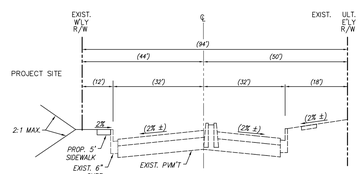


SECTION D-D
N.T.S.

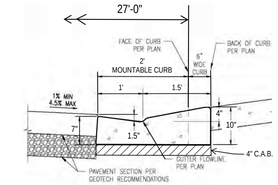


SECTION E-E CATT ROAD
LOOKING EAST
N.T.S.

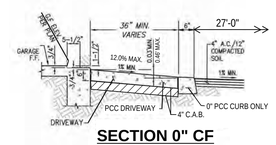
SECTION F-F
N.T.S.



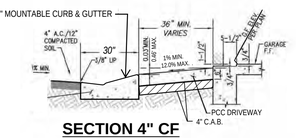
TYPICAL SECTION – WILDOMAR TRAIL
T.I.=8.5, R=34
N.T.S.



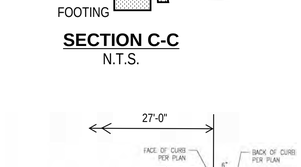
4" MOUNTABLE CURB AND GUTTER
N.T.S.



SECTION 0" CF



SECTION 4" CF



SECTION C-C
N.T.S.

PRELIM. EARTHWORK QUANTITIES	
RAW CUT	67,340 CY
RAW FILL	22,390 CY
SOIL OVEREX.	67,160 CY
EARTH EXPORT	38,761 CY

REGISTERED PROFESSIONAL ENGINEER — RONALD W. SKLEPKO — No. C46216 — Exp. 12-31-2022 — CIVIL — STATE OF CALIFORNIA

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860
PREPARED BY: Ronald W. Sklepko — 4-18-2022 (DATE)
RONALD W. SKLEPKO
R.C.E. No. C46216 EXP. 12-31-2022

CONCEPTUAL GRADING PLAN
TENTATIVE PARCEL MAP NO. 38333
NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 4-21-2022
JOB #21-994
SHEET C-1

FILENAME: M:\2021\21-994 Sage Investco Wildomar Retail\WA\21994 MA01.dwg, LAST SAVED ON: Apr 13 2022 9:10am PLOTTED BY: BGB, ON: Apr 13 2022 11:01am, CFG:

Appendix 3: Soils Information

Geotechnical Study, Other Infiltration Testing Data, and/or Other Documentation

PRELIMINARY GEOTECHNICAL EXPLORATION
PROPOSED 8.9 ACRE MIXED-USE DEVELOPMENT
APNS 376-410-021 AND 376-410-015, 016 & -017
WILDOMAR, CALIFORNIA

Prepared For

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660

Prepared By

LEIGHTON AND ASSOCIATES, INC.
41715 ENTERPRISE CIRCLE N SUITE 103
TEMECULA, CA 92590

Project Number 13158.003

October 19, 2021

Leighton and Associates, Inc.
A Leighton Group Company

October 19, 2021
Project No. 13158.003

Sage Investco
3837 Birch Street
Newport Beach, CA 92660

Attention: Mr. Ralph Deppisch

Subject: Preliminary Geotechnical Exploration
Proposed 8.9 Acre Mixed-Use Development
APNs 376-410-021 and 376-410-015, 016 & -017
NWC Clinton Keith Road and Wildomar Trail
Wildomar, California

In accordance with your request, we have performed a geotechnical exploration for the subject site located northwest of the intersection of Clinton Keith Road and Wildomar Trail in the City of Wildomar, California (see Figure 1). This report summarizes our geotechnical findings and provides preliminary recommendations for the design and construction of the proposed improvements. Based on the results of our exploration, it is our opinion that the site is suitable for the intended use provided the recommendations included in this report are implemented during the design and construction phases of development.

If you have any questions regarding this report, please do not hesitate to contact the undersigned. We appreciate this opportunity to be of service on this project.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

PROFESSIONAL GEOLOGIST
MITCHEL S. BORNYASZ
No. 2416
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

PROFESSIONAL ENGINEER
SIMON I SAIID
2641
GEOTECHNICAL
STATE OF CALIFORNIA

Mitchel S. Bornyasz CEG 2416
Project Geologist
Ext 8925 mbornyasz@leightongroup.com

Simon I. Saiid, GE 2641
Principal Engineer
Ext 8013 ssaiid@leightongroup.com

Distribution: (1) Addressee (PDF)

TABLE OF CONTENTS

Section Page

1.0 INTRODUCTION 1
1.1 Purpose and Scope 1
1.2 Site Description 1
1.3 Project Description 2
2.0 Field Exploration and Laboratory testing 3
2.1 Field Exploration 3
2.2 Laboratory Testing 3
3.0 GEOTECHNICAL AND GEOLOGIC FINDINGS 4
3.1 Regional Geology 4
3.2 Site Specific Geology 4
3.3 Groundwater and Surface Water 5
3.4 Regional Faulting and Fault Activity 6
3.5 Ground Shaking and Seismic Coefficients per 2019 CBC 6
3.6 Secondary Seismic Hazards 7
3.6.1 Dynamic Settlement (Liquefaction and/or Dry Settlement) 7
3.6.2 Ground Rupture 8
3.6.3 Rock Falls 8
3.6.4 Seiches, Tsunamis, Inundation Due to Large Water Storage Facilities 8
3.6.5 Slope Stability and Landslides 8
3.6.6 Subsidence 8
4.0 CONCLUSIONS AND RECOMMENDATIONS 9
4.1 General 9
4.2 Earthwork 9
4.2.1 Remedial Grading 9
4.2.2 Structural Fills 10
4.2.3 Slope Construction 11
4.2.4 Import Soils 11
4.2.5 Utility Trenches 11
4.2.6 Temporary Slope Stability 12
4.2.7 Shrinkage 13
4.2.8 Drainage 13
4.3 Foundation Design 13
4.3.1 Design Parameters – Spread/Continuous Shallow Footings 13
4.3.2 Post-Tension Slab-on-Grade Design 14
4.3.3 Vapor Retarder 14
4.3.4 Settlement Estimates 15
4.4 Footing Setback 15
4.5 Retaining Walls 16
4.6 Sulfate Attack 17

4.7 Preliminary Pavement Design 17
5.0 GEOTECHNICAL CONSTRUCTION SERVICES 19
6.0 LIMITATIONS 20
References 21

Accompanying Tables, Figures, Plates and Appendices

List of Tables

TABLE 1. 2019 CBC SEISMIC COEFFICIENTS PER USGS GENERAL PROCEDURE 7
TABLE 2. PTI DESIGN PARAMETERS 14
TABLE 3. RETAINING WALL DESIGN EARTH PRESSURES (STATIC, DRAINED) 16
TABLE 4. PRELIMINARY ASPHALT PAVEMENT SECTIONS 17

Figures and Plates (end of text)

Figure 1 – Site Location Map
Figure 2 – Geotechnical Map / Boring Location Plan
Figure 3 – Regional Geology Map

Appendices

Appendix A – Logs of Exploratory Borings / Field Exploration
Appendix B – Results of Geotechnical Laboratory Testing
Appendix C – General Earthwork and Grading Specifications
Appendix D – GBA - Important Information About This Geotechnical Report

TABLE OF CONTENTS

Section Page

1.0 INTRODUCTION 1
1.1 Purpose and Scope 1
1.2 Site Description 1
1.3 Project Description 2
2.0 FIELD EXPLORATION AND LABORATORY TESTING 3
2.1 Field Exploration 3
2.2 Laboratory Testing 3
3.0 GEOTECHNICAL AND GEOLOGIC FINDINGS 4
3.1 Regional Geology 4
3.2 Site Specific Geology 4
3.3 Groundwater and Surface Water 5
3.4 Regional Faulting and Fault Activity 5
3.5 Ground Shaking and Seismic Coefficients per 2019 CBC 6
3.6 Secondary Seismic Hazards 7
3.6.1 Dynamic Settlement (Liquefaction and/or Dry Settlement) 7
3.6.2 Ground Rupture 8
3.6.3 Rock Falls 8
3.6.4 Seiches, Tsunamis, Inundation Due to Large Water Storage Facilities 8
3.6.5 Slope Stability and Landslides 8
3.6.6 Subsidence 8
4.0 CONCLUSIONS AND RECOMMENDATIONS 9
4.1 General 9
4.2 Earthwork 9
4.2.1 Remedial Grading 9
4.2.2 Structural Fills 10
4.2.3 Slope Construction 11
4.2.4 Import Soils 11
4.2.5 Utility Trenches 11
4.2.6 Temporary Slope Stability 12
4.2.7 Shrinkage 12
4.2.8 Drainage 13
4.3 Foundation Design 13
4.3.1 Design Parameters – Spread/Continuous Shallow Footings 13
4.3.2 Post-Tension Slab-on-Grade Design 14
4.3.3 Vapor Retarder 14
4.3.4 Settlement Estimates 15
4.4 Footing Setback 15
4.5 Retaining Walls 15
4.6 Sulfate Attack 17

4.7 Preliminary Pavement Design 17
5.0 GEOTECHNICAL CONSTRUCTION SERVICES 18
6.0 LIMITATIONS 19
References 20

Accompanying Tables, Figures, Plates and Appendices

List of Tables

TABLE 1. 2019 CBC SEISMIC COEFFICIENTS PER USGS GENERAL PROCEDURE 7
TABLE 2. PTI DESIGN PARAMETERS 14
TABLE 3. RETAINING WALL DESIGN EARTH PRESSURES (STATIC, DRAINED) 16
TABLE 4. PRELIMINARY ASPHALT PAVEMENT SECTIONS 17

Figures and Plates (end of text)

Figure 1 – Site Location Map
Figure 2 – Geotechnical Map / Boring Location Plan
Figure 3 – Regional Geology Map

Appendices

Appendix A – Logs of Exploratory Borings / Field Exploration
Appendix B – Results of Geotechnical Laboratory Testing
Appendix C – General Earthwork and Grading Specifications
Appendix D – GBA - Important Information About This Geotechnical Report

1.0 INTRODUCTION

1.1 Purpose and Scope

This geotechnical exploration is for the proposed residential development located in the City of Wildomar, California (***see Figure 1, Site Location Map)***. Our scope of services for this exploration included the following:

- Review of available site-specific geologic information and conceptual site plans by AO Architects (residential) and GK Pierce (commercial).
- A site reconnaissance and excavation of 6 exploratory borings and 7 exploratory test pits. Approximate locations of these borings and test pits are depicted on Figure 2. The logs of borings are presented in Appendix A.
- Geotechnical laboratory testing of selected soil samples collected during this exploration. Test results are presented in Appendix B***.***
- Geotechnical engineering analyses performed as directed by a California registered Geotechnical Engineer (GE) and reviewed by a California Certified Engineering Geologist (CEG).
- Preparation of this report which presents our geotechnical conclusions and recommendations regarding the grading and design of the proposed structures.

This report is not intended to be used as an environmental assessment (Phase I or other), or foundation/grading plan review. A Phase 1 ESA for this project was prepared by Leighton under separate cover.

1.2 Site Description

As depicted on Figure 1, the 8.96-acre site is located north of Clinton Keith Road and west of Wildomar Trail in the City of Wildomar, California. The site is designated by Riverside County APNs 376-410-021 and 376-410-015, 016 and -017. A large portion of the site is undeveloped and vacant, with the western portion of the site occupied by a single family residence and ancillary out buildings. Review of historic aerial photographs indicate that the residence was built sometime between 1938 and 1967, and that there were previous additional barn-type structures to the north of the residence on the property. Review of these aerial photos (and field reconnaissance) also indicates that one large and multiple smaller end-dumped stockpiles were placed on the central and southern portions of the site circa 2009. The general area of the project site is underlain by sedimentary bedrock formation (Pauba Formation), locally mantled by younger alluvium and topsoil. Site vegetation is generally sparse and

consists of seasonal weeds and grasses with several mature trees in the northeastern portion of the site.

1.3 Project Description

We understand that proposed site improvements involve mixed-use development with multifamily residential construction on the western portion of the site and commercial retail within the eastern portion (see Figure 2). The residential development includes five (5), two to three-story apartment buildings, a community club house, and associated driveways, parking and drainage structures. The commercial development includes a Major store with attached shop (~27,160 sq.ft) in the northeastern part of the site and two drive-thru restaurants (~3,000 to 3,600 sq. ft.) located in the southeastern portion of the site along Clinton Keith. Grading plans were not available at the time of this evaluation. However, based on the provided conceptual site plan and existing topography, future grading is expected to be moderate with maximum cuts and fills in the order of 10 to 15 feet plus remedial grading, where applicable. Cut or fill slopes, if proposed, are expected to be constructed at 2:1 (horizontal to vertical) inclinations or flatter.

2.0 FIELD EXPLORATION AND LABORATORY TESTING

2.1 Field Exploration

Our field exploration consisted of the excavation of six (6) borings within the site and seven (7) backhoe trenches. During the drilling exploration, in-situ undisturbed (Cal Ring), standard penetration test (SPT) and disturbed/bulk samples were collected from the borings for further laboratory testing and evaluation. Approximate locations of these exploratory borings and trenches are depicted on the ***Geotechnical Map*** (Figure 2). Sampling was conducted by a senior staff engineer and engineering geologist from our firm. After logging and sampling, the excavations were backfilled with spoils generated during excavation. The exploration logs from this exploration investigation are included in Appendix A.

2.2 Laboratory Testing

Laboratory tests were performed on representative samples to provide a basis for development of remedial earthwork and geotechnical design parameters. The laboratory testing program included expansion index, in-situ moisture and density, R-value, collapse potential, and corrosion characteristics. The results of our laboratory testing from this exploration are presented in Appendix B.

3.0 GEOTECHNICAL AND GEOLOGIC FINDINGS

3.1 Regional Geology

The site is located within a prominent natural geomorphic province in southwestern California known as the Peninsular Ranges. This region is characterized by steep, elongated ranges and valleys that trend generally northwestward. More specifically, the site is located within the southwestern portion of the relatively stable Perris Block, adjacent to the Elsinore Trough (Kennedy, 1977).

The Perris Block, approximately 20 miles by 50 miles in extent, is bounded by the San Jacinto Fault Zone to the northwest, the Elsinore Fault Zone to the southwest, the Cucamonga Fault Zone to the northwest, and the Temecula Basin to the southeast. The Perris Block has had a complex tectonic history, apparently undergoing relative vertical land-movements of several thousand feet in response to movement on the Elsinore and San Jacinto Fault Zones. Sedimentary and volcanic materials locally mantle crystalline bedrock. With alluvial deposits filling the lower valley areas.

3.2 Site Specific Geology

The earth materials encountered on site during this investigation consisted of undocumented artificial fill, alluvium, and the sandstone member of the Pleistocene-age Pauba Formation (Figure 3). These units are discussed in the following sections in order of increasing depth and relative age.

- **Undocumented Artificial Fill (Afu):** Undocumented fill soils were observed at several locations within the subject site. The majority of the undocumented fill forms a large central stock pile and multiple smaller end dump piles within the central and southern portions of the site (see Figure 2). While the undocumented fill soil appears to be composed of materials derived from surrounding development, the presence of imported materials or rock/debris within these fills cannot be ruled out at this time. Additional localized fill soil is likely present in the areas surrounding previous residences and out-buildings/structures. Surface accumulations of artificial fill less than approximately 3 feet may not be depicted on Figure 2. These undocumented fills are considered unsuitable for support of additional fill and/or structural improvements in their current setting and should be completely removed during rough-grading operations. Clean undocumented fill soils, free of deleterious material may be reused as compacted fill provided they are placed in general accordance with the recommendations provided in Appendix C. Vegetation, trash and debris, where encountered, should also be removed from the site.

- **Topsoil/Colluvium (not a mapped unit):** Thin deposits of weathered topsoil and slope wash mantle the elevated portions of the site. Where present, these deposits generally consist of silty/clayey sand (SM/SC) to sandy clay (CL) and expected to extend to a maximum depth of 3 feet. The topsoil and colluvium are considered unsuitable in their present state and should be removed to competent underlying deposits per the recommendations of section 4.2.1 in this report. Free of deleterious materials these deposits can be reused as fill soils during grading. Based on the results of our laboratory testing, these materials are expected to possess low expansion potential (EI<51).

- **Quaternary Alluvium (Qal):** Alluvium was observed infilling the bottom of the drainage present within the eastern parts of the site. The alluvium appears to be composed of clayey sand (SC) to silty sand (SM) occasional sandy clay layers (CL). Based on the results of our laboratory testing, these materials are expected to possess low expansion potential (EI<51) in the upper 5 to 10 feet. Due to the potentially compressible nature of the near-surface alluvium (upper ~5 to 7 feet), these deposits are considered unsuitable for support of settlement-sensitive structures and/or structural fill in their present condition.

- **Pauba Formation (Qps):** The bedrock material (Pauba Formation) is expected to underlie the site and will be exposed at the surface in future cut (western) portions of site. This unit generally consists of medium-dense to very dense, well graded sands (SW) and clayey silty sands (SM) with interbedded sandy silt/clay (CL/ML). Based on the results of our laboratory testing, this unit appears to generally possess very low to low expansion potential (EI<51) and low collapse potential (collapse<1%)

3.3 Groundwater and Surface Water

Groundwater was encountered within one of our borings at a depth of 42.6 feet below surface grade (BGS). Surface water is not anticipated to be encountered during grading. However, it should be noted that locally perched water conditions may occur in the future, and may fluctuate seasonally, depending on rainfall conditions. Surface water was not observed during this study; however, surface water should be expected during inclement weather within the onsite natural drainage channel.

3.4 Regional Faulting and Fault Activity

The subject site, like the rest of Southern California, is located within a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates. The principal source of seismic activity is movement along the northwest-trending regional fault systems such as the San Andreas, San Jacinto, and Elsinore Fault Zones. Based on published geologic

hazard maps, this subject site is not located within a currently designated Alquist-Priolo (AP) Earthquake Fault Zone. The project site is located approximately 0.63 miles northeast of the closest Alquist-Priolo Earthquake Fault Zone. However, the subject site is located within a mapped Riverside County Fault Hazard zone. Previous mapping on adjacent properties has identified an earthquake fault in the northeastern portion of this site (Leighton, 2005, 2006, 2021). As presented on the conceptual site plan (Figure 2), habitable buildings are located (set back) in excess of 50 feet from the mapped trace of the identified fault per the approved fault hazard report (Leighton, 2021).

3.5 Ground Shaking and Seismic Coefficients per 2019 CBC

Strong ground shaking can be expected at the site during moderate to severe earthquakes in this general region. This is common to virtually all of Southern California. Intensity of ground shaking at a given location depends primarily upon earthquake magnitude, site distance from the source, and site response (soil type) characteristics.

Based on our explorations and review, the site is underlain by shallow dense fill and alluvial materials underlain by dense Pauba formation. As such, the site is classified as a Class C site, and in accordance with ASCE 7-16 as the Design Code Reference Document, the 2019 CBC seismic coefficients are listed in table below. These seismic coefficients are generated based on interactive tools/programs currently available on USGS website and/or OSHPD seismic maps.

Table 1. 2019 CBC Seismic Coefficients per USGS General Procedure

CBC Categorization/Coefficient	Design Value
Site Latitude	**33.5985**
Site Longitude	**-117.2416**
Site Class Definition	**C**
Mapped Spectral Response Acceleration at 0.2s Period, S_s	**1.65 g**
Mapped Spectral Response Acceleration at 1s Period, S_1	**0.62 g**
Short Period Site Coefficient at 0.2s Period, F_a	**1.2**
Long Period Site Coefficient at 1s Period, F_v	**1.4**
Adjusted Spectral Response Acceleration at 0.2s Period, S_{MS}	**1.97 g**
Adjusted Spectral Response Acceleration at 1s Period, S_{M1}	**0.86 g**
Design Spectral Response Acceleration at 0.2s Period, S_{DS}	**1.32 g**
Design Spectral Response Acceleration at 1s Period, S_{D1}	**0.57 g**

g = Gravity acceleration

The results of the analysis also indicate that the adjusted Peak Ground Acceleration (PGA_M) for this site is 0.87 g.

3.6 Secondary Seismic Hazards

Ground shaking can induce "secondary" seismic hazards such as liquefaction, dynamic densification, and ground rupture, as discussed in the following subsections:

3.6.1 Dynamic Settlement (Liquefaction and/or Dry Settlement)

The site is mapped as located within a Low to Moderate Riverside County Liquefaction Hazard zone. Based on the results of our subsurface borings, observations and the geotechnical recommendations presented herein, the loose near surface soils (susceptible to liquefaction) on the site will be completely removed and recompacted during remedial grading. Thus, potential for liquefaction or dynamic settlement to occur on this site is considered very low.

Compacted fill soils above the ground water elevation that are primarily granular in nature (sand), may be susceptible to dynamic settlement or densification if shaken by the design level earthquake. This hazard is considered very low at this site. As such, the differential settlement is expected to be less than 0.5-inch in a 40-foot horizontal distance within this site.

3.6.2 Ground Rupture

Previous mapping on adjacent properties has identified an earthquake fault projecting across the northeastern portion of this site (Leighton, 2005, 2006, 2021). Habitable building locations, as presented on the conceptual site plan in place at the time of this evaluation are located (set back) in excess of 50 feet from the mapped trace of the identified fault. Given the aforementioned setbacks, surface rupture hazard to buildings are considered very low in the event of movement on the mapped fault.

3.6.3 Rock Falls

The potential for rock fall due to either erosion or seismic ground shaking is considered non-existent in this area.

3.6.4 Seiches, Tsunamis, Inundation Due to Large Water Storage Facilities

Due to the great distance to large bodies of water, the possibility of seiches and tsunamis impacting the site is considered remote.

3.6.5 Slope Stability and Landslides

The existing slopes are considered grossly stable. Due to the relatively moderate relief across the site and anticipated graded slope heights, the risk of deep-seated slope failure on this site or adjacent sites is considered low. The site is not considered susceptible to seismically induced landslides.

3.6.6 Subsidence

In accordance with County of Riverside Geologic Hazard Maps, the site is located within an active subsidence area. However, due to the previous grading (Leighton 2004), we consider the potential for differential subsidence and ground fissuring on this site to be very low.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 General

The proposed site development appears feasible from a geotechnical viewpoint provided that the following recommendations are incorporated into the design and construction phases of development. The main geotechnical concern is the potential for differential settlement along portions of the proposed buildings where subgrade transitions from dense Pauba subgrade into fill subgrade. As such, special remedial grading recommendations are provided below so differential settlement is kept to tolerable limits.

4.2 Earthwork

Earthwork should be performed in accordance with the following recommendations and the ***Earthwork and Grading Specifications*** included in Appendix C of this report. In case of conflict, the following recommendations supersede those in Appendix C. The contract between the Owner and the earthwork contractor should be worded such that it is the responsibility of the contractor to place fill properly and in accordance with recommendations presented in this report, including the guide specifications in Appendix C, and the testing and observation of the geotechnical consultant.

4.2.1 Remedial Grading

Prior to grading, the proposed structural improvement areas (i.e. all structural fill areas, pavement areas, buildings, etc.) of the site should be cleared of surface and subsurface obstructions, heavy vegetation, roots and debris. These deleterious materials should be disposed of offsite. Septic tanks, cesspool, and water wells, if encountered, should be removed or abandoned in accordance with the Riverside County Department of Health Services guidelines.

An actual grading plan was not available at the time of preparing this report. However, we anticipate that there will be conventional cut and fill grading at the site to create building pads. Removal of unsuitable compressible materials should be anticipated in the proposed cut and fill areas. Unsuitable materials will consist of topsoil/ colluvium, all undocumented fill, and the upper 3 to 7 feet of alluvium. For preliminary planning purposes, the removal depth as indicated on figure 2 will be on the order of 3 to 5 feet below existing grades for most of the residential site and western portion of the commercial site. The removal depth is expected to be 5 to 7 feet below existing grade for settlement-sensitive

structures within the eastern portion of the commercial site. Removal depth or over-excavation need not to exceed 3 feet in parking areas.

Localized deeper "pockets" of unsuitable material may be encountered such as the central eastern portion of the site where undocumented fills may reside on top of compressible alluvium. The over excavation bottoms should be reviewed by a representative of the geotechnical consultant. The excavation bottoms exposing moderately dense Pauba Formation or Alluvium should be processed and moisture conditioned prior to placement of fill soils.

If design grades create cut/fill transitions, over-excavation of the cut portion of the transition pads to a minimum of 3 feet below pad grade may be desired during rough grading. This over-excavation does not include scarification or pre-processing prior to addition of fill placements. Over-excavation limits should extend to approximately 10 feet outside of proposed building “footprints”. Actual limits can be determined during rough grading operations. We recommend that transition pads be overexcavated during rough-grading operations.

After completion of the recommended removal of unsuitable soils, and over-excavation of transition pads, the approved surface should be scarified a minimum of 8-inches, moisture conditioned as necessary to near optimum and compacted.

4.2.2 Structural Fills

The onsite soil is generally suitable for reuse as compacted fill, provided it is substantially free of organic materials, expansive soil, debris, and oversize material (greater than 6 inches in greatest dimension). Topsoil and vegetation layers, root zones, and similar surface materials should be striped and stockpiled or removed from the site. The optimum lift thickness to produce a uniformly compacted fill will depend on the soil and the type and size of compaction equipment used. In general, fill should be placed in uniform lifts not exceeding 8 inches in thickness. Fill soil should be placed and compacted to a minimum 90 percent relative compaction (as determined by ASTM Test Method D1557) and at or above the optimum moisture content.

Placement and compaction of fill should be performed in accordance with the City Grading Ordinances and the recommendations in Appendix C, under the full-time observation and testing of the geotechnical engineer. Import fill soil with an expansion index greater than 21 should not be used in the upper 3 feet of subgrade soil below building pads. If cobbles and boulders larger than 6-inches in largest diameter are encountered or produced during grading, these oversized cobbles and boulders should be reduced to less than 6 inches or placed in structural fill as outlined in Appendix C.

4.2.3 Slope Construction

If applicable, fill slope keyways will be necessary at the toe of all fill slopes placed beyond the areas of existing fill and at fill-over-cut contacts. Keyway schematics, including dimensions and subdrain recommendations, are provided in Appendix C. All keyways should be excavated into dense existing fill or Pauba formation as determined by the geotechnical engineer. The cut portions of all slope and keyway excavations should be geologically mapped and approved by a geologist prior to fill placement.

Compacted fill or cut slopes up to 20 feet in height at 2:1 (horizontal:vertical) or flatter are considered grossly stable for static and pseudostatic conditions. Higher or steeper slopes should be subject to further review and evaluation.

The outer portion of fill slopes should be either overbuilt by 2 feet (minimum) and trimmed back to the finished slope configuration or compacted in vertical increments of 5 feet (maximum) by a weighted sheepsfoot roller as the fill is placed. The slope face should then be track-walked by dozers of appropriate weight to achieve the final slope configuration and compaction of the slope face.

Slope faces are inherently subject to erosion, particularly if exposed to rainfall and irrigation. Landscaping and slope maintenance should be conducted as soon as possible in order to increase long-term surficial stability. Berms and or v-ditch drainage devices should be provided at the top of all slopes. Drainage should be directed such that surface runoff on the slope face is minimized.

4.2.4 Import Soils

Import soil and/or borrow sites, if needed, should be evaluated by us prior to import. Import soil should be uncontaminated, granular in nature, free of organic material (loss on ignition less-than 2 percent), have very low expansion potential (E<21) and have a low corrosion impact to the proposed improvements.

4.2.5 Utility Trenches

Utility trenches should be backfilled with compacted fill in accordance with Sections 306-6 and 306-12 of the ***Standard Specifications for Public Works Construction,*** ("Greenbook"), 2021 Edition. Fill material above the pipe zone should be placed in lifts not exceeding 8 inches in uncompacted thickness and should be compacted to at least 90 percent relative compaction (ASTM D 1557) by mechanical means only. Site soil may generally be suitable as trench backfill provided the soil is screened of rocks over 1½ inch in diameter and organic matter. If imported sand is used as backfill, the upper 3 feet in building and pavement areas should be compacted to 95 percent. The upper 6 inches

of backfill in all pavement areas should be compacted to at least 95 percent relative compaction.

Where granular backfill is used in utility trenches adjacent moisture sensitive subgrades and foundation soil, we recommend that a cut-off "plug" of impermeable material be placed in these trenches at the perimeter of buildings, and at pavement edges adjacent to irrigated landscaped areas. A "plug" can consist of a 5-foot long section of clayey soil with more than 35-percent passing the No. 200 sieve, or a Controlled Low Strength Material (CLSM) consisting of one sack of Portland-cement plus one sack of bentonite per cubic-yard of sand. CLSM should generally conform to requirements of the "Greenbook". This is intended to reduce the likelihood of water permeating trenches from landscaped areas, then seeping along permeable trench backfill into the building and pavement subgrades, resulting in wetting of moisture sensitive subgrade soil under buildings and pavements.

Excavation of utility trenches should be performed in accordance with the project plans, specifications and the ***California Construction Safety Orders*** (latest Edition). The contractor should be responsible for providing a "competent person" as defined in Article 6 of the ***California Construction Safety Orders***. Contractors should be advised that sandy soil could make excavations particularly unsafe if all safety precautions are not properly implemented. In addition, excavations at or near the toe of slopes or parallel to slopes may be highly unstable due to the increased driving force and load on the trench wall. Spoil piles from the excavation(s) and construction equipment should be kept away from the sides of the trenches. Leighton and Associates, Inc. (Leighton) does not consult in the area of safety engineering.

4.2.6 Temporary Slope Stability

Existing site soil and/or fill derived from onsite soil should be considered as OSHA soil Type C. Therefore, unshored temporary cut slopes should be no steeper than 1½:1 (horizontal:vertical), for a height no-greater-than 20 feet (California Construction Safety Orders, Subchapter 4, Section 1541.1, Table B-1). During construction, exposed soil conditions should be regularly evaluated to verify that conditions are as anticipated. The contractor should be responsible for providing the "competent person" required by OSHA standards to evaluate soil conditions. Close coordination between the competent person and geotechnical consultant should be maintained to facilitate construction while providing safe excavations.

4.2.7 Shrinkage

The volume change of excavated on-site soils upon recompaction is expected to vary with material type, density, in situ moisture content, location, and compaction effort. The in-place and compacted densities of soil vary and

accurate overall determination of shrinkage and bulking cannot be made. Therefore, we recommend site grading include, if possible, a balance area or ability to adjust grades slightly to accommodate some variation. Based on our geotechnical laboratory test results, we expect recompaction shrinkage (when recompacted to an average 92 percent of ASTM D 1557) of 5- to 15-percent by volume for the alluvium or Pauba formation.

4.2.8 Drainage

All drainage should be directed away from structures, slopes and pavements by means of approved permanent or temporary drainage devices. Adequate storm drainage of any proposed pad should be provided to avoid wetting of the foundation soil. Irrigation adjacent to buildings should be avoided when possible. As an option, sealed-bottom planter boxes or drought resistant vegetation should be used within 5-feet of buildings.

4.3 Foundation Design

Shallow spread or continuous wall footings bearing on a newly placed properly compacted fill are anticipated for the proposed structures.

4.3.1 Design Parameters – Spread/Continuous Shallow Footings

Footings should be embedded at least 12-inches below lowest adjacent grade for the proposed structures. Footing embedment should be measured from lowest adjacent finished grade, considered as the top of interior slabs-on-grade or the finished exterior grade, excluding landscape topsoil, whichever is lower. Footings located adjacent to utility trenches or vaults should be embedded below an imaginary 1:1 (horizontal:vertical) plane projected upward and outward from the bottom edge of the trench or vault, up towards the footing.

- **Bearing Capacity**: For footings founded on properly compacted fill soil, an allowable vertical bearing capacity of 2,000 pounds-per-square-foot (psf) should be used. The bearing pressure value may be increased by 250 psf for each additional foot of embedment or each additional foot of width to a maximum vertical bearing value of 3,000 psf. These bearing values may be increased by one-third when considering short-term seismic or wind loads. All continuous perimeter or interior footings should be reinforced with at least one No. 5 bar placed both top and bottom.

- **Lateral loads**: Lateral loads may be resisted by friction between the footings and the supporting subgrade. A maximum allowable frictional resistance of 0.35 may be used for design. In addition, lateral resistance may be provided by passive pressures acting against foundations poured neat against properly compacted granular fill. We recommend that an allowable passive pressure based on an equivalent fluid pressure of

350 pounds-per-cubic-foot (pcf) be used in design. These friction and passive values have already been reduced by a factor-of-safety of 1.5.

Slab-on-grade floors utilized with conventional foundations should be designed with a minimum thickness as indicated by the project structural engineer consistent with a modulus of subgrade reaction of 200 pounds-per-square-inch per inch (pci) and reinforced in accordance with the structural engineer's recommendations.

4.3.2 Post-Tension Slab-on-Grade Design

Per Section 1808.6.2 of the 2019 California Building Code, slab-on-grade design for expansive soils (EI>21) should be designed in accordance with WRI/CRSI Design of Slab-On-Ground Foundations or PTI DC 10.5 or any other approved method taking into consideration the anticipated differential movement (ym) and/or differential settlement provided in Section 4.3.4 of this soils report.

PTI Design Category 1 may be applied to lots with an Expansion Index (EI) less than 51 (or PI<20). The following PTI design parameters were derived using VOLFLO 1.5 computer program developed by Geostructural Tool Kit, Inc. and the laboratory test results summarized above:

Table 2. PTI Design Parameters

	Category I (EI<51 & PI<20)
Edge Moisture Variation, e_m	
Center Lift	9.0 feet
Edge Lift	5.1 feet
Differential Swell, y_m	
Center Lift - Shrink	0.46 inches
Edge Lift - Swell	0.88 inches

4.3.3 Vapor Retarder

A moisture retarder should be installed underneath all slabs where moisture condensation is undesirable. The vapor retarder should be sealed at all penetrations and laps and properly installed in accordance with the recommendations of the architect, concrete subcontractor, and the manufacturer's recommendations. Moisture vapor retarders may retard but not eliminate moisture vapor movement from the underlying soils up through the slabs. Moisture vapor transmission may be additionally reduced by use of concrete additives. A slipsheet or equivalent should be utilized above the concrete slab if crack-sensitive floor coverings (such as ceramic tiles, etc.) are to be placed directly on the concrete slab

It has been a standard of care to place a 10-mil Visqueen moisture retarder (or equivalent) underneath all moisture sensitive slabs. This moisture retarder is typically covered by a 2-inch layer of sand (SE of 30 or greater) to reduce curling. Visqueen sheets should overlap at least 6-inches. If storage of moisture sensitive records (files) or floor coverings (e.g. vinyl tile, etc.) are to be used, additional moisture mitigation measures may be employed within or beneath concrete slab-on-grade floors. Moisture retarders do not completely eliminate moisture vapor movement from the underlying soils up through the slabs or from the unbonded water in the concrete. To further reduce moisture vapor emissions that may result in delamination and other tile damage, we recommend that a moisture retarder specialist be consulted.

4.3.4 Settlement Estimates

For settlement estimates, we assumed that column loads will be no larger than 90 kips, with bearing wall loads not exceeding 10 kips per foot of wall. If greater column or wall loads are required, we should re-evaluate our foundation recommendation, and re-calculate settlement estimates.

Buildings located on properly compacted fill soils as required per Section 4.2 should be designed in anticipation of 1 inch of total settlement and 1/2-inch of differential settlement within a 40-foot horizontal run.

4.4 Footing Setback

We recommend a minimum horizontal setback distance from the face of slopes for all structural footings (retaining and decorative walls, building footings, etc.). This distance is measured from the outside bottom edge of the footing horizontally to the slope face (or to the face of a retaining wall) and should be a minimum of H/2, where H is the slope height (in feet). The setback should not be less than 7 feet and need not be greater than 20 feet for this project.

Note that the soils within the structural setback area possess poor lateral stability and improvements (such as retaining walls, sidewalks, fences, pavements, etc.) constructed within this setback area may be subject to lateral movement and/or differential settlement. Potential distress to such improvements may be mitigated by providing a deepened footing or a pier and grade-beam foundation system to support the improvement. The deepened footing should meet the setback as described above.

4.5 Retaining Walls

Retaining wall earth pressures are a function of the amount of wall yielding horizontally under load. If the wall can yield enough to mobilize full shear strength

of the backfill soil, then the wall can be designed for "active" pressure. If the wall cannot yield under the applied load, the shear strength of the soil cannot be mobilized and the earth pressure will be higher. Such walls should be designed for "at rest" conditions. If a structure moves toward the soils, the resulting resistance developed by the soil is the "passive" resistance. Retaining walls backfilled with non-expansive soils can be designed using the following equivalent fluid pressures:

Table 3. Retaining Wall Design Earth Pressures (Static, Drained)

Loading Conditions	Equivalent Fluid Density (pcf)	
	Level Backfill	2:1 Sloped Backfill
Active	35	55
At-Rest	55	75
Passive*	300	150 (2:1, sloping down)

* This assumes level condition in front of the wall will remain for the duration of the project, not to exceed 3,500 psf at depth.

Unrestrained (yielding) cantilever walls should be designed for the active equivalent-fluid weight value provided above for very low to low expansive soils that are free draining (see Appendix C for typical drainage). In the design of walls restrained from movement at the top (non-yielding) such as basement or elevator pit/utility vaults, the at-rest equivalent fluid weight value should be used. Total depth of retained earth for design of cantilever walls should be measured as the vertical distance below the ground surface measured at the wall face for stem design, or measured at the heel of the footing for overturning and sliding calculations. Should a sloping backfill other than a 2:1 (horizontal:vertical) be constructed above the wall (or a backfill is loaded by an adjacent surcharge load), the equivalent fluid weight values provided above should be re-evaluated on an individual case basis by us. Non-standard wall designs should also be reviewed by us prior to construction to check that the proper soil parameters have been incorporated into the wall design.

All retaining walls should be provided with appropriate drainage. The outlet pipe should be sloped to drain to a suitable outlet. Wall backfill should be non-expansive (EI $\leq$ 21) sands compacted by mechanical methods to a minimum of 90 percent relative compaction (ASTM D 1557). Walls should not be backfilled until wall concrete attains the 28-day compressive strength and/or as determined by the Structural Engineer that the wall is structurally capable of supporting backfill. Lightweight compaction equipment should be used, unless otherwise approved by the Structural Engineer.

4.6 Sulfate Attack

The result of our laboratory testing on a soil sample taken from the site showing a low exposure to sulfate attack is included in Appendix B. Further testing should be performed at the completion of site grading to confirm soluble-sulfate content in on-site subgrade soil.

4.7 Preliminary Pavement Design

The preliminary pavement design provided below is based on the design procedures included in Caltrans Highway Design Manual and an R-value of 5. For planning and estimating purposes, the pavement sections are calculated based on assumed Traffic Indexes (TI) and design criteria of 20-year life span.

Table 4. Preliminary Asphalt Pavement Sections

General Traffic Condition	Traffic Index (TI)	Hot Mix Asphalt HMA (ft.)	Aggregate Base* AB (ft.)
Interior Auto Parking	4.5	0.25	0.81
Interior Access Roadways	5.0	0.25	0.86
Truck Access & Driveways	6.0	0.33	1.16
Truck Access & Driveways	7.0	0.33	1.56

The applicable Traffic Index (TI) should be designated by the project civil engineer and actual R-values of the subgrade soils should be verified after completion of site grading to finalize the pavement design.

The upper 6 inches of pavement area subgrade soils should be moisture-conditioned to near optimum moisture content, compacted to at least 95 percent relative compaction (ASTM D 1557) and kept in this condition until the pavement section is constructed. Minimum relative compaction requirements for aggregate base should be 95 percent of the maximum laboratory density as determined by ASTM D 1557. Aggregate base should conform to Greenbook or Caltrans Class 2 aggregate base.

If pavement areas are adjacent to heavily watered landscape areas, some deterioration of the subgrade load bearing capacity may result. Moisture control measures such as deepened curbs or other moisture barrier materials may be used to prevent the subgrade soil from becoming saturated. The use of concrete cutoff or edge barriers should be considered when pavement is planned adjacent to either open (unfinished) or irrigated landscaped areas.

5.0 GEOTECHNICAL CONSTRUCTION SERVICES

Geotechnical review is of paramount importance in engineering practice. Poor performance of many foundation and earthwork projects has been attributed to inadequate construction review. We recommend that Leighton be provided the opportunity to review the grading and foundation plans prior to bid.

Reasonably-continuous construction observation and review during site grading and foundation installation allows for evaluation of the actual soil conditions and the ability to provide appropriate revisions where required during construction. Geotechnical conclusions and preliminary recommendations should be reviewed and verified by Leighton during construction, and revised accordingly if geotechnical conditions encountered vary from our findings and interpretations. Geotechnical observation and testing should be provided:

- After completion of site demolition and clearing,
- During over-excavation of compressible soil,
- During compaction of all fill soil,
- After excavation of all footings and prior to placement of concrete,
- During utility trench backfilling and compaction, and
- When any unusual conditions are encountered.

Additional geotechnical exploration and analysis may be required based on final development plans, for reasons such as significant changes in proposed structures, locations, or footprints. We should review grading (civil) and foundation (structural) plans, and comment further on geotechnical aspects of this project.

6.0 LIMITATIONS

This report was based in part on data obtained from a limited number of observations, site visits, soil excavations, samples and tests. Such information is, by necessity, incomplete. The nature of many sites is such that differing soil or geologic conditions can be present within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. Therefore, our findings, conclusions and recommendations presented in this report are based on the assumption that we (Leighton and Associates, Inc.) will provide geotechnical observation and testing during construction as the Geotechnical Engineer of Record for this project. Please refer to Appendix D, GBA's ***Important Information About Your Geotechnical Report***, prepared by the Geoprofessional Business Association (GBA) presenting additional information and limitations regarding geotechnical engineering studies and reports.

This report was prepared for the sole use of Client and their design team, for application to design of the proposed maintenance building, in accordance with generally accepted geotechnical engineering practices at this time in California. Any unauthorized use of or reliance on this report constitutes an agreement to defend and indemnify Leighton and Associates, Inc. from and against any liability, which may arise as a result of such use or reliance, regardless of any fault, negligence, or strict liability of Leighton and Associates, Inc.

REFERENCES

Army Corps of Engineers, Evaluation of Settlement for Dynamic and Transient Loads, Technical Engineering and Design Guides as Adapted from the US Army Corps of Engineers, No. 9, American Society of Civil Engineers Press.

American Society of Civil Engineers, 2016, Minimum Design Loads for Buildings and Other Structures, ASCE/SEI 7-16 Publication.

Bryant, W. A. and Hart, E.W., 2007, Fault-Rupture Hazard Zones in California, Alquist-Priolo Earthquake Fault Zoning with Index to Earthquake Zones Maps: Department of Conservation, Division of Mines and Geology, Special Publication 42. Interim Revision 2007.

California Building Code, 2019, California Code of Regulations Title 24, Part 2, Volume 2 of 2.

California Department of Water Resources, 2014, Water Data Library, viewed October 13, 2014, www.water.ca.gov/waterdatalibrary.

California Geologic Survey (CGS), 2003. The Revised 2002 California Probabilistic Seismic Hazard Maps, June 2003. By Tianquing Cao, William A. Bryant, Badie Rowshandel, David Branum and Christopher J. Wills.

California Geological Survey, (CGS), 2006, Geologic Map of the San Bernardino and Santa Ana 30' X 60' Quadrangle, Southern California, Version 1.0, Compiled by Douglas M. Morton and Fred K. Miller, Open File Report 06-1217.

Hunt, Gail, 2005, Fault-Rupture Hazard Investigation, Proposed Residential Development, Southwest Corner of Clinton Keith Road and Inland Valley Drive, Wildomar, California, dated January 28, 2005, appended to NorCal, 2003

Kennedy, M.P., 1977, "Recency and Character of Faulting Along the Elsinore Fault Zone in Southern Riverside County, California", Special Report 131.

Leighton Consulting Inc., 2005, Geologic Fault Review, Proposed ±5-Acre Parcel APN 362-250-003, Wildomar, County of Riverside, California, dated August 15, 2005, Project No. 601027-001.

Leighton Consulting Inc., 2005, Geologic Fault Review, Proposed ±5-Acre Parcel APN 362-250-004, Wildomar, County of Riverside, California, dated August 15, 5005, Project No. 601027-001.

Leighton Consulting Inc., 2005, Geological Fault Hazard Investigation, Proposed +/-5-Acre Parcel, APN 362-250-003, Wildomar, Riverside County, California, dated September 19, 2005, Project No. 601027-003.

Leighton Consulting Inc., 2005, Geological Fault Investigation, Proposed ±5-Acre Parcel, APN 362-250-004, Wildomar, Riverside County, California, dated September 21, 2005, Project No. 601027-002b

Leighton Consulting Inc., 2021, Due Diligence Fault Hazard Review, Parcel APN 376-410-021, NWC Clinton Keith Road and Wildomar Trail, Wildomar, California, dated June 7, 2021, Project No. 13158.001

OSHPD, 2021, Seismic Design Maps, an interactive computer program on OSHPD website to calculate Seismic Response and Design Parameters based on ASCE 7-16 seismic procedures, https://seismicmaps.org/

Public Works Standard, Inc., 2021, ***Greenbook, Standard Specifications for Public Works Construction: 2018 Edition***, BNI Building News, Anaheim, California.

Riverside County Information Technology, 2019, Map My County (website), http://mmc.rivcoit.org/MMC_Public/Viewer.html?Viewer=MMC_Public

Tokimatsu, K., and Seed, H.B., 1987, Evaluation of Settlements in Sands Due to Earthquake Shaking, ASCE Journal of Geotechnical Engineering, Vol. 113, No. 8, dated August.



Project: 13158.003	Eng/Geol: MSB
Scale:1 " = 2,000 '	Date: September 2021

Base Map: ESRI ArcGIS Online 2021
Thematic Information: Leighton
Author: Leighton Geomatics (btran)

SITE LOCATION MAP

Preliminary Geotechnical Evaluation
(APNs 376-410-021 and 376-410-015, -016 & -017)
NWC Clinton Keith Road and Wildomar Trail
Wildomar, California

FIGURE 1

Leighton

Map Saved as V:\Drafting\13158\003\Maps\13158-003_F01_SLM_2021-09-28.mxd on 9/28/2021 12:41:54 PM

LEGEND

- LB-6 — Approximate Location of Boring
- TP-7 — Approximate Location of Test Pit
- Afu — Undocumented Artificial Fill
- Qya — Quaternary Alluvium (Circled Where Buried)
- Qps — Pauba Formation (Circled Where Buried)
- 7-11' — Approximate Remedial Removal Depth
- Geologic Contact, Dotted Where Buried
- Approximate Location of Fault (Leighton, 2006)
- Approximate Site Boundary



Project: 13158.003	Eng/Geol: SIS/MSB
Scale: 1 " = 80 '	Date: October 2021
Base Map: ESRI ArcGIS Online 2021 and	
Author: Leighton Geomatics (btran)	

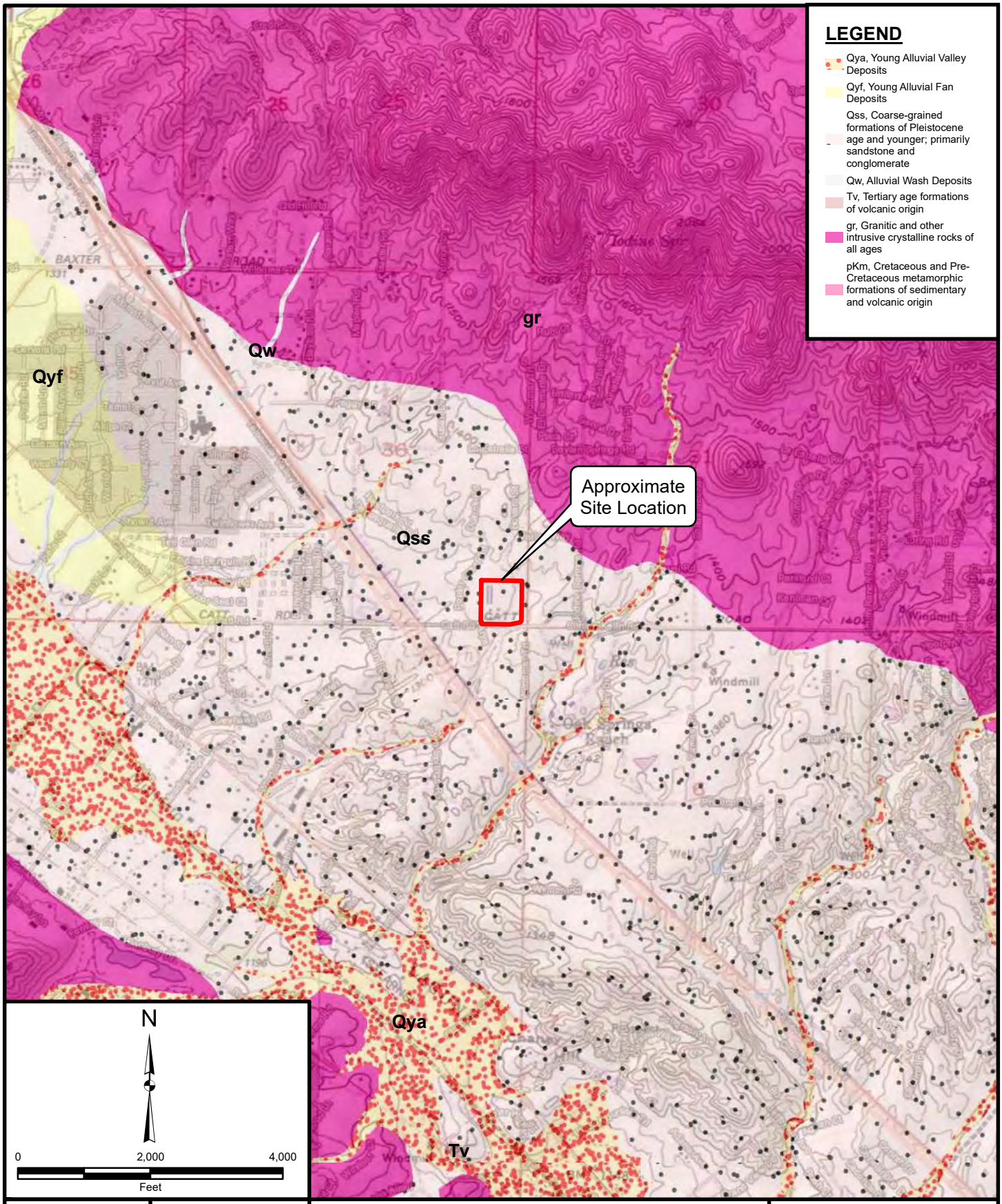
Map Saved as V:\Drafting\13158\003\Maps\13158-003_F02_GM_2021-10-04.mxd on 10/4/2021 11:35:52 AM

GEOTECHNICAL MAP

Preliminary Geotechnical Evaluation
(APNs 376-410-021 and 376-410-015, -016 & -017)
NWC Clinton Keith Road and Wildomar Trail
Wildomar, California

FIGURE 2

Leighton



Project: 13158.003	Eng/Geol: MSB
Scale:1 " = 2,000 '	Date: September 2021

Base Map: ESRI ArcGIS Online 2021
Socal Preliminary Geology, 2010

Author: Leighton Geomatics (btran)

REGIONAL GEOLOGY MAP

Preliminary Geotechnical Evaluation
(APNs 376-410-021 and 376-410-015, -016 & -017)
NWC Clinton Keith Road and Wildomar Trail
Wildomar, California

FIGURE 3

Leighton

Map Saved as V:\Drafting\13158\003\Maps\13158-003_F03_RGM_2021-09-28.mxd on 9/28/2021 12:47:59 PM

APPENDIX A

LOGS OF EXPLORATORY BORINGS / FIELD EXPLORATION

Encountered earth materials were logged and sampled in the field by our representative and described in accordance with the Unified Soil Classification System (ASTM D 2488). During drilling, bulk and relatively undisturbed ring-lined split-barrel driven earth material samples were obtained from our borings for geotechnical laboratory testing and classification. Drive-samples were driven with a 140-pound auto-hammer falling 30-inches. Samples were transported to our in-house Temecula laboratory for geotechnical testing. After logging and sampling, our borings were backfilled with spoils generated during drilling.

The attached subsurface exploration logs and related information depict subsurface conditions only at the locations indicated and at the particular date designated on these logs. Subsurface conditions at other locations may differ from conditions occurring at these logged locations. Passage of time may result in altered subsurface conditions due to environmental changes. In addition, any stratification lines on these logs represent an approximate boundary between sampling intervals and soil types; and transitions may be gradual.

GEOTECHNICAL BORING LOG LB-01

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0								*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
									ARTIFICIAL FILL (Afu):	
				R1	30 34 41	6	131	SC	CLAYEY SAND, dense, brown to strong brown, dry, fine sand	
									PAUBA FORMATION (Qps):	
	5			B1 R2	32 50/5"	7	104	SC-SM	CLAYEY SILTY SAND, very dense, brown to strong brown, slightly moist, fine sand	MD, SA
	10			R3	13 38 50/5"				CLAYEY SILTY SAND with gravel, very dense, reddish brown, slightly moist	
	15			R4	15 40 50/5"	8	125		CLAYEY SILTY SAND, very dense, reddish brown, slightly moist	
	20			R5	28 50/5"			SW-SM	WELL-GRADED SAND with Silt, very dense, reddish brown, moist	
	25								Boring Terminated at 21'6" No Groundwater Encountered Backfilled with Cuttings	
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-02

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B1				CL-SC	**ARTIFICIAL FILL (Afu):**	CR, RV
				R1	28 42 50/5"	127	6	SC	CLAYEY SAND, dense, brown to strong brown, dry, fine sand **PAUBA FORMATION (Qps):**	
	5			R2	32 50/5"	120	6	SC-SM	CLAYEY SILTY SAND, very dense, brown to strong brown, slightly moist, fine sand	
	10			R3	18 23 43			ML	SANDY SILT, hard, brown, slightly moist	
	15			R4	23 42 46	125	8	SC-SM	SILTY CLAYEY SAND, hard, brown, slightly moist	
	20			R5	16 25 43			ML\CL	SANDY SILT, hard, brown, moist	
									Boring Terminated at 21'6" No Groundwater Encountered Backfilled with Cuttings	
	25									
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-03

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0							SM	**ARTIFICIAL FILL (Afu):** SILTY SAND, brown to strong brown, dry, fine sand	
	5			R1	16 32 36	127	7	SC-SM	**PAUBA FORMATION (Qps):** CLAYEY SILTY SAND, dense, brown, slightly moist, fine sand	
	10			R2	17 32 35				CLAYEY SILTY SAND, dense, brown, slightly moist, fine sand	
	15			R3	20 34 31	121	13	SC	CLAYEY SAND, hard, strong brown, slightly moist, fine sand, (CO = 0.56)	CO
	20			R4	10 16 23	120	5	SM	SILTY SAND, medium dense, yellowish brown, moist, medium sand	
	25			S1	7 11 12				SILTY SAND, medium dense, strong brown, moist	
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-03

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	30			R5	20 23 43	132	8	SM	SILTY SAND, medium dense, brown, moist	
	35			S2	4 7 9			CL	SANDY CLAY, stiff, strong brown, moist	
	40			R6	10 19 35	115	15		SANDY CLAY, dense, brown, moist, fine sand, mottled with miscellaneous highly weathered rock fragments including black, grey, and reddish brown fragments	
	45			S3	6 10 14				SANDY CLAY, medium dense, strong brown, wet, fine sand, mottled with miscellaneous highly weathered rock fragments including black, grey, and reddish brown fragments	
	50			S4	13 16 21				SANDY CLAY, medium dense, pale brown, wet, mottled with miscellaneous highly weathered rock fragments including black, grey, and reddish brown fragments	
	55								Boring Terminated at 51'6" Groundwater Encountered at 42'6" Backfilled with Cuttings	
	60									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-04

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0								*This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.*	
									ARTIFICIAL FILL (Afu):	
				R1	35 50/5"	115	5	SC-SM	CLAYEY SAND, very dense, brown to yellowish brown, dry, fine sand	
	5								**PAUBA FORMATION (Qps):**	
				S1	10 23 25			SM	SILTY SAND, medium dense, brown, slightly moist, fine sand	
	10									
				R2	19 29 31	125	6	SC-SM	CLAYEY SAND, medium dense, brown, slightly moist	
	15			S2	7 8 11			SM	SILTY SAND, medium dense, brown, slightly moist	
									Boring Terminated at 16'6" No Groundwater Encountered Backfilled with Cuttings	
	20									
	25									
	30									

SAMPLE TYPES:

B	BULK SAMPLE
C	CORE SAMPLE
G	GRAB SAMPLE
R	RING SAMPLE
S	SPLIT SPOON SAMPLE
T	TUBE SAMPLE

TYPE OF TESTS:

-200	% FINES PASSING	DS	DIRECT SHEAR	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	EI	EXPANSION INDEX	SE	SAND EQUIVALENT
CN	CONSOLIDATION	H	HYDROMETER	SG	SPECIFIC GRAVITY
CO	COLLAPSE	MD	MAXIMUM DENSITY	UC	UNCONFINED COMPRESSIVE STRENGTH
CR	CORROSION	PP	POCKET PENETROMETER		
CU	UNDRAINED TRIAXIAL	RV	R VALUE		

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-05

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B1					**ARTIFICIAL FILL (Afu):**	
				R1	30 34	117	6	SC	CLAYEY SAND, dense, brown, dry, fine sand (EI = 33)	
					40				**PAUBA FORMATION (Qps):**	
	5			R2	37 44 48			SM	SILTY SAND, very dense, brown, slightly moist, fine sand	
	10			R3	15 25 30	130	6	SC-SM	CLAYEY SAND, dense, brown to strong brown, slightly moist	
	15			S1	6 5 9			SP-SM	WELL-GRADED SAND with Silt, medium dense, brown, slightly moist	
	20			R4	20 33 41	129	10	SM	SILTY SAND, dense, strong brown to brown, slightly moist	
	25			S2	9 11 15				SILTY SAND, medium dense, strong brown to brown, slightly moist	
									Boring Terminated at 26'6" No Groundwater Encountered Backfilled with Cuttings	
	30									

This Soil Description applies only to a location of the exploration at the time of sampling. Subsurface conditions may differ at other locations and may change with time. The description is a simplification of the actual conditions encountered. Transitions between soil types may be gradual.

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

GEOTECHNICAL BORING LOG LB-06

Project No.	13158.003	**Date Drilled**	9-13-21
Project	Sage Wildomar Prelim Geo Evaluation	**Logged By**	DP
Drilling Co.	2R Drilling	**Hole Diameter**	8"
Drilling Method	Hollow Stem Auger - 140lb - Autohammer - 30" Drop	**Ground Elevation**	'
Location	See Boring Location Map	**Sampled By**	DP

Elevation Feet	Depth Feet	Graphic Log (N / S)	Attitudes	Sample No.	Blows Per 6 Inches	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	SOIL DESCRIPTION	Type of Tests
	0			B1				SM	**ARTIFICIAL FILL (Afu):** SILTY SAND, brown, dry, fine sand, (EI = 17)	SE, EI, SA
	5			R1	13 17 27	113	10	SC	**PAUBA FORMATION (Qps):** CLAYEY SAND, medium dense, brown to strong brown, slightly moist, fine sand	
	10			R2	12 27 29				CLAYEY SAND, dense, brown, slightly moist	
	15			R3	10 19 28	118	12		CLAYEY SAND, very stiff, brown, moist	
	20			R4	17 33 38				CLAYEY SAND, very stiff, brown, moist	
	25								Boring Terminated at 216" No Groundwater Encountered Backfilled with Cuttings	
	30									

SAMPLE TYPES:
- B BULK SAMPLE
- C CORE SAMPLE
- G GRAB SAMPLE
- R RING SAMPLE
- S SPLIT SPOON SAMPLE
- T TUBE SAMPLE

TYPE OF TESTS:
- -200 % FINES PASSING
- AL ATTERBERG LIMITS
- CN CONSOLIDATION
- CO COLLAPSE
- CR CORROSION
- CU UNDRAINED TRIAXIAL
- DS DIRECT SHEAR
- EI EXPANSION INDEX
- H HYDROMETER
- MD MAXIMUM DENSITY
- PP POCKET PENETROMETER
- RV R VALUE
- SA SIEVE ANALYSIS
- SE SAND EQUIVALENT
- SG SPECIFIC GRAVITY
- UC UNCONFINED COMPRESSIVE STRENGTH

Leighton

*** This log is a part of a report by Leighton and should not be used as a stand-alone document. ***

Leighton

LOG OF TRENCH: TP-1

Project Name: Sage Investigation Wildomar
Logged by: MSB
Project Number: 13158.003
Elevation: See Plans
Equipment: JD 310SC Backhoe
Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-1.6' Reworked and compacted Qps as Artificial Fill: Silty SAND to Clayey SAND, very dense, light brown, dry	Afu	SM-SC			
	1.6-3.5' Pauba Formation: Silty Clayey SAND, dense, dark reddish brown, dry, stoneline at bottom (EI=17)	Qps	SC-SM	B-1		
	3.5-6.0+ Unweathered Pauba, Silty SAND to Clayey SAND, dense, light brown, dry		SM-SC			

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 6 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

LOG OF TRENCH: TP-2

Project Name: Sage Investigation Wildomar | Logged by: MSB

Project Number: 13158.003 | Elevation: See Plans

Equipment: JD 310SC Backhoe | Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-3.8' Artificial Fill: Gravel Silty SAND to Clayey SAND, moderately dense, light brown/gray, dry	Afu	gSM	B-1		
	3.8-6.5+' Pauba Formation; Silty SAND, dense, light brown, dry	Qps	SM	B-2		

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 6.5 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

Leighton

LOG OF TRENCH: TP-3

Project Name: Sage Investigation Wildomar
Logged by: MSB
Project Number: 13158.003
Elevation: See Plans
Equipment: JD 310SC Backhoe
Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-5+' Artificial Fill: Reworked Qps with gravel Silty SAND, dense, light brown, dry, with pebble gravel	Afu	gSM	B-1		

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 5 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

Leighton

LOG OF TRENCH: TP-4

Project Name: Sage Investigation Wildomar
Logged by: MSB
Project Number: 13158.003
Elevation: See Plans
Equipment: JD 310SC Backhoe
Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-3' Artificial Fill and Alluvium Silty SAND and SILT, loose to medium dense, dark brown	Afu/Qya	SM-ML			
	3-5' Alluvium: Silty SAND, loose, dark brown, dry	Qya	SM	B-1		
	5-10+' Alluvium: Silty SAND, medium dense, brown, dry (moist at 10')					

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 10 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

Leighton

LOG OF TRENCH: TP-5

Project Name: Sage Investigation Wildomar
Logged by: MSB
Project Number: 13158.003
Elevation: See Plans
Equipment: JD 310SC Backhoe
Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-2.5' Artificial Fill; Silty SAND and Clayey SAND, dense, brown, dry with gravel and rocks	Afu	SM-SC			
	2.5-5' Alluvium; Silty SAND, loose to medium dense, light brown, dry	Qya	SM			
	5-6.5+ Pauba Formation; Sandy CLAY, very dense, reddish brown, dry	Qps	CL			

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 6.5 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

Leighton

LOG OF TRENCH: TP-6

Project Name: Sage Investigation Wildomar
Logged by: MSB
Project Number: 13158.003
Elevation: See Plans
Equipment: JD 310SC Backhoe
Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-4’ Artificial Fill and Alluvium; Silty SAND, medium dense, brown, dry with few cobbles	Afu/Qya	SM-ML			
	4-8’ Alluvium; Silty SAND, loose, brown, dry	Qya	gSM	B-1		
	8-10’ Silty SAND, medium dense, light brown, dry		SM			

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 10 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

Leighton

LOG OF TRENCH: TP-7

Project Name: Sage Investigation Wildomar
Logged by: MSB
Project Number: 13158.003
Elevation: See Plans
Equipment: JD 310SC Backhoe
Location/Grid: NWC Clinton Keith & George Ave

GEOLOGIC ATTITUDES	DATE: 9/3/2021 DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES: USCS	Sample No.	Moisture (%)	Density (pcf)
	0-3.5' Pauba Formation; Clayey SAND to CLAY, dense, dark brown, dry with gravel and rocks	Qps	SC-CL			
	3.5-5+' Silty, Clayey SAND, dense, brown, dry (Pauba)	Qps	SM-SC			

GRAPHICAL REPRESENTATION: SCALE: variable SURFACE SLOPE: TREND:



Total Depth = 5 Feet
No Ground Water Encountered
Backfilled: 9/3/2021

APPENDIX B

RESULTS OF GEOTECHNICAL LABORATORY TESTING

Boring No.	LB-1	LB-1	LB-1	LB-2	LB-2	LB-2	LB-3	LB-3
Sample No.	R-1	R-2	R-4	R-1	R-2	R-4	R-1	R-3
Depth (ft.)	2.5	5.0	15.0	2.5	5.0	15.0	5.0	15.0
Sample Type	RING	RING	RING	RING	RING	RING	RING	RING
Visual Soil Classification	**TOP: SC BOTTOM: SC**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC BOTTOM: SC**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC BOTTOM: SC**
Pocket Penetrometer								
Weight Soil + Rings / Tube (gm.)	1272.8	1070.1	1246.1	1238.1	1187.0	1238.8	1250.1	1256.2
Weight of Rings / Tube (gm.)	267.0	267.0	267.0	267.0	267.0	267.0	267.0	267.0
Average Length (in.)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Average Diameter (in.)	2.416	2.416	2.416	2.416	2.416	2.416	2.416	2.416
Wet. Wt. of Soil + Cont. (gm.)	346.6	275.6	369.5	372.8	332.0	367.0	347.1	346.5
Dry Wt. of Soil + Cont. (gm.)	329.2	261.2	344.0	354.2	314.2	344.7	327.0	312.3
Weight of Container (gm)	37.4	50.1	38.1	50.7	37.0	50.9	38.0	49.6
Container No.:	A-1	6	A-11	W	A-30	E	A-27	Y
Wet Density (pcf)	139	111	136	134	127	135	136	137
Moisture Content (%)	**6**	**7**	**8**	**6**	**6**	**8**	**7**	**13**
Dry Density (pcf)	**131**	**104**	**125**	**127**	**120**	**125**	**127**	**121**
Degree of Saturation (%)	57	30	65	50	43	59	58	90

Leighton

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Project Name: Sage Wildomar Geo
Project No.: 13158.003
Client Name: Sage Investco
Tested By: F. Mina Date: 09/23/21

Boring No.	LB-3	LB-3	LB-3	LB-4	LB-4	LB-5	LB-5	LB-5
Sample No.	R-4	R-5	R-6	R-1	R-2	R-1	R-3	R-4
Depth (ft.)	20.0	30.0	40.0	2.5	12.5	2.5	10.0	20.0
Sample Type	RING	RING	RING	RING	RING	RING	RING	RING
Visual Soil Classification	**TOP: SM BOTTOM: SM**	**TOP: SM BOTTOM: SM**	**TOP: (CL)s BOTTOM: (CL)s**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SC BOTTOM: SC**	**TOP: SC-SM BOTTOM: SC-SM**	**TOP: SM BOTTOM: SM**
Pocket Penetrometer								
Weight Soil + Rings / Tube (gm.)	1176.2	1294.0	1221.4	1137.7	1224.7	968.0	1261.8	1286.8
Weight of Rings / Tube (gm.)	267.0	267.0	267.0	267.0	267.0	222.5	267.0	267.0
Average Length (in.)	6.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0
Average Diameter (in.)	2.416	2.416	2.416	2.416	2.416	2.416	2.416	2.416
Wet. Wt. of Soil + Cont. (gm.)	351.2	376.4	335.5	302.7	375.5	251.4	373.9	286.2
Dry Wt. of Soil + Cont. (gm.)	335.9	353.5	297.2	290.9	356.1	239.4	355.3	265.0
Weight of Container (gm)	36.9	50.4	38.3	49.5	38.9	50.2	36.2	50.4
Container No.:	A-17	F	75	DD	A-26	S	A-24	AX
Wet Density (pcf)	126	142	132	121	133	124	138	141
Moisture Content (%)	**5**	**8**	**15**	**5**	**6**	**6**	**6**	**10**
Dry Density (pcf)	**120**	**132**	**115**	**115**	**125**	**117**	**130**	**129**
Degree of Saturation (%)	34	74	86	28	47	38	53	86

Leighton

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Project Name: Sage Wildomar Geo
Project No.: 13158.003
Client Name: Sage Investco
Tested By: F. Mina Date: 09/23/21

Boring No.	LB-6	LB-6						
Sample No.	R-1	R-3						
Depth (ft.)	5.0	15.0						
Sample Type	RING	RING						
Visual Soil Classification	**TOP: SC BOTTOM: SC**	**TOP: SC BOTTOM: SC**						
Pocket Penetrometer								
Weight Soil + Rings / Tube (gm.)	1166.7	1223.1						
Weight of Rings / Tube (gm.)	267.0	267.0						
Average Length (in.)	6.0	6.0						
Average Diameter (in.)	2.416	2.416						
Wet. Wt. of Soil + Cont. (gm.)	738.8	598.2						
Dry Wt. of Soil + Cont. (gm.)	708.0	563.6						
Weight of Container (gm)	414.5	277.8						
Container No.:	C	W						
Wet Density (pcf)	125	132						
Moisture Content (%)	**10**	**12**						
Dry Density (pcf)	**113**	**118**						
Degree of Saturation (%)	57	77						

Leighton

MOISTURE & DENSITY of SOILS

ASTM D 2216 & ASTM D 2937

Project Name: Sage Wildomar Geo

Project No.: 13158.003

Client Name: Sage Investco

Tested By: F. Mina Date: 09/23/21

MODIFIED PROCTOR COMPACTION TEST

ASTM D 1557

Project Name:	Sage Wildomar Geo	Tested By:	F. Mina	Date:	09/27/21
Project No.:	13158.003	Input By:	M. Vinet	Date:	09/27/21
Boring No.:	LB-1	Depth (ft.):	5.0		
Sample No.:	B-1				
Soil Identification:	Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.				

Preparation Method: [X] Moist [ ] Dry

[X] Mechanical Ram [ ] Manual Ram

Mold Volume (ft³) 0.03340 *Ram Weight = 10 lb.; Drop = 18 in.*

TEST NO.	1	2	3	4	5	6
Wt. Compacted Soil + Mold (g)	5580	5701	5761	5680		
Weight of Mold (g)	3545	3545	3545	3545		
Net Weight of Soil (g)	2035	2156	2216	2135		
Wet Weight of Soil + Cont. (g)	2242.2	2193.8	2484.8	2403.7		
Dry Weight of Soil + Cont. (g)	2160.0	2101.8	2310.4	2200.0		
Weight of Container (g)	278.0	696.1	279.7	282.3		
Moisture Content (%)	4.4	6.5	8.6	10.6		
Wet Density (pcf)	134.3	142.3	146.3	140.9		
Dry Density (pcf)	128.7	133.6	134.7	127.4		

Maximum Dry Density (pcf) 135.0 **Optimum Moisture Content (%)** 8.0

PROCEDURE USED

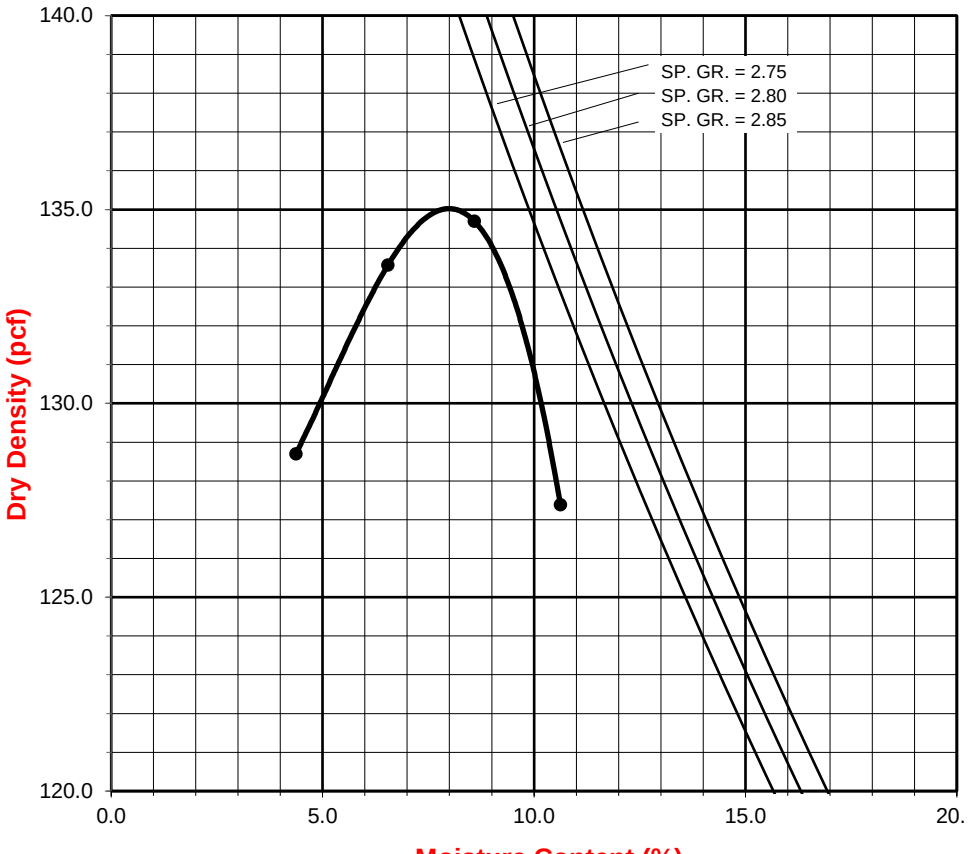
[X] **Procedure A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if +#4 is 20% or less

[ ] **Procedure B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if +#4 is >20% and +3/8 in. is 20% or less

[ ] **Procedure C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if +3/8 in. is >20% and +¾ in. is <30%

Particle-Size Distribution:
GR:SA:FI

Atterberg Limits:
LL,PL,PI



Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Sage Wildomar Geo
Project No.: 13158.003
Boring No.: TP-4
Sample No.: B-1
Soil Identification: Silty Sand (SM), Brown.

Tested By: MRV Date: 09/28/21
Checked By: MRV Date: 09/28/21
Depth (feet): 3.0 - 10.0

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	P	P	Wt. of Air-Dry Soil + Cont.(g)	1168.1	1046.1
Wt. Air-Dried Soil + Cont.(g)	1168.1	1046.1	Wt. of Dry Soil + Cont. (g)	1145.7	1046.1
Wt. of Container (g)	716.0	716.0	Wt. of Container No._____(g)	716.0	716.0
Dry Wt. of Soil (g)	429.8	330.1	Moisture Content (%)	5.2	0.0

Passing #4 Material After Wet Sieve		
	Container No.	P
	Wt. of Dry Soil + Container (g)	902.8
	Wt. of Container (g)	716.0
	Dry Wt. of Soil Retained on # 200 Sieve (g)	186.8

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
1 1/2"	37.500			100.0
1"	25.000			100.0
3/4"	19.000			100.0
1/2"	12.500	0.0		100.0
3/8"	9.500	1.4		99.7
#4	4.750	9.2		97.9
#8	2.360		13.4	93.9
#16	1.180		31.2	88.6
#30	0.600		50.5	82.9
#50	0.300		74.1	75.9
#100	0.150		111.4	64.9
#200	0.075		172.8	46.7
PAN				

GRAVEL: 2 %
SAND: 51 %
FINES: 47 %
GROUP SYMBOL: SM

Cu = D60/D10 = N/A
Cc = $(D30)^2/(D60*D10)$ = N/A

Remarks:

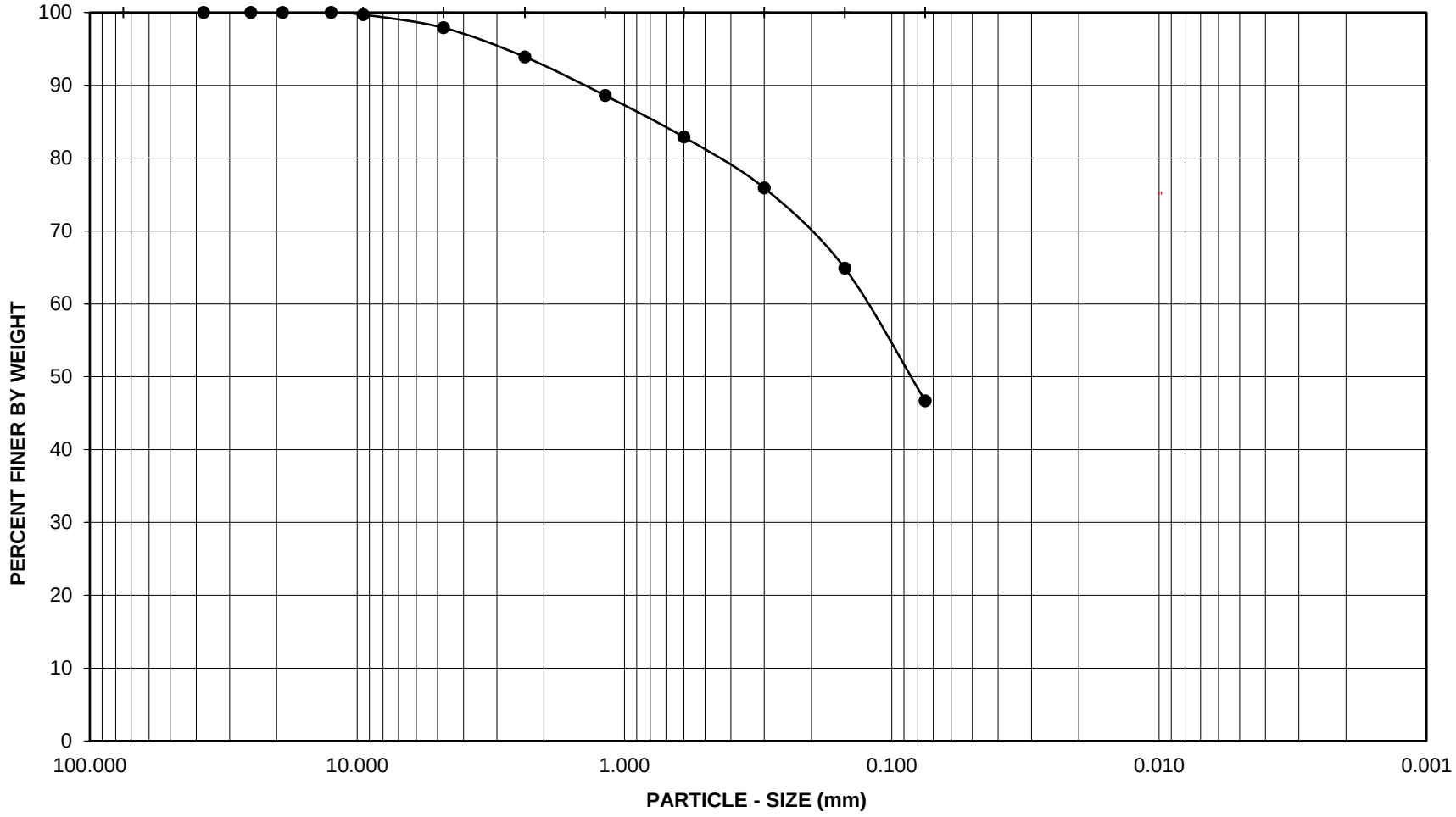
1644

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: Sage Wildomar Geo

Project No.: 13158.003

Boring No.: TP-4 Sample No.: B-1

Depth (feet): 3.0 - 10.0 Soil Type : SM

Soil Identification: Silty Sand (SM), Brown.

GR:SA:FI : (%) 2 : 51 : 47

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Sep-21

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Sage Wildomar Geo
Project No.: 13158.003
Boring No.: LB-1
Sample No.: B-1
Soil Identification: Silty, Clayey Sand (SC-SM), Dark Reddish Brown.

Tested By: MRV Date: 09/28/21
Checked By: MRV Date: 09/28/21
Depth (feet): 5.0

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	S	S	Wt. of Air-Dry Soil + Cont.(g)	2193.8	1016.1
Wt. Air-Dried Soil + Cont.(g)	2193.8	1016.1	Wt. of Dry Soil + Cont. (g)	2101.8	1016.1
Wt. of Container (g)	696.1	696.1	Wt. of Container No._____(g)	696.1	696.1
Dry Wt. of Soil (g)	1406.3	320.0	Moisture Content (%)	6.5	0.0

Passing #4 Material After Wet Sieve		
	Container No.	S
	Wt. of Dry Soil + Container (g)	892.2
	Wt. of Container (g)	696.1
	Dry Wt. of Soil Retained on # 200 Sieve (g)	196.1

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
1 1/2"	37.500			100.0
1"	25.000			100.0
3/4"	19.000	0.0		100.0
1/2"	12.500	5.3		99.6
3/8"	9.500	14.6		99.0
#4	4.750	94.7		93.3
#8	2.360		19.1	87.7
#16	1.180		54.4	77.4
#30	0.600		87.5	67.8
#50	0.300		120.0	58.3
#100	0.150		152.3	48.9
#200	0.075		189.8	38.0
PAN				

GRAVEL: 7 %
SAND: 55 %
FINES: 38 %
GROUP SYMBOL: SC-SM

Cu = D60/D10 = N/A
Cc = $(D30)^2/(D60*D10)$ = N/A

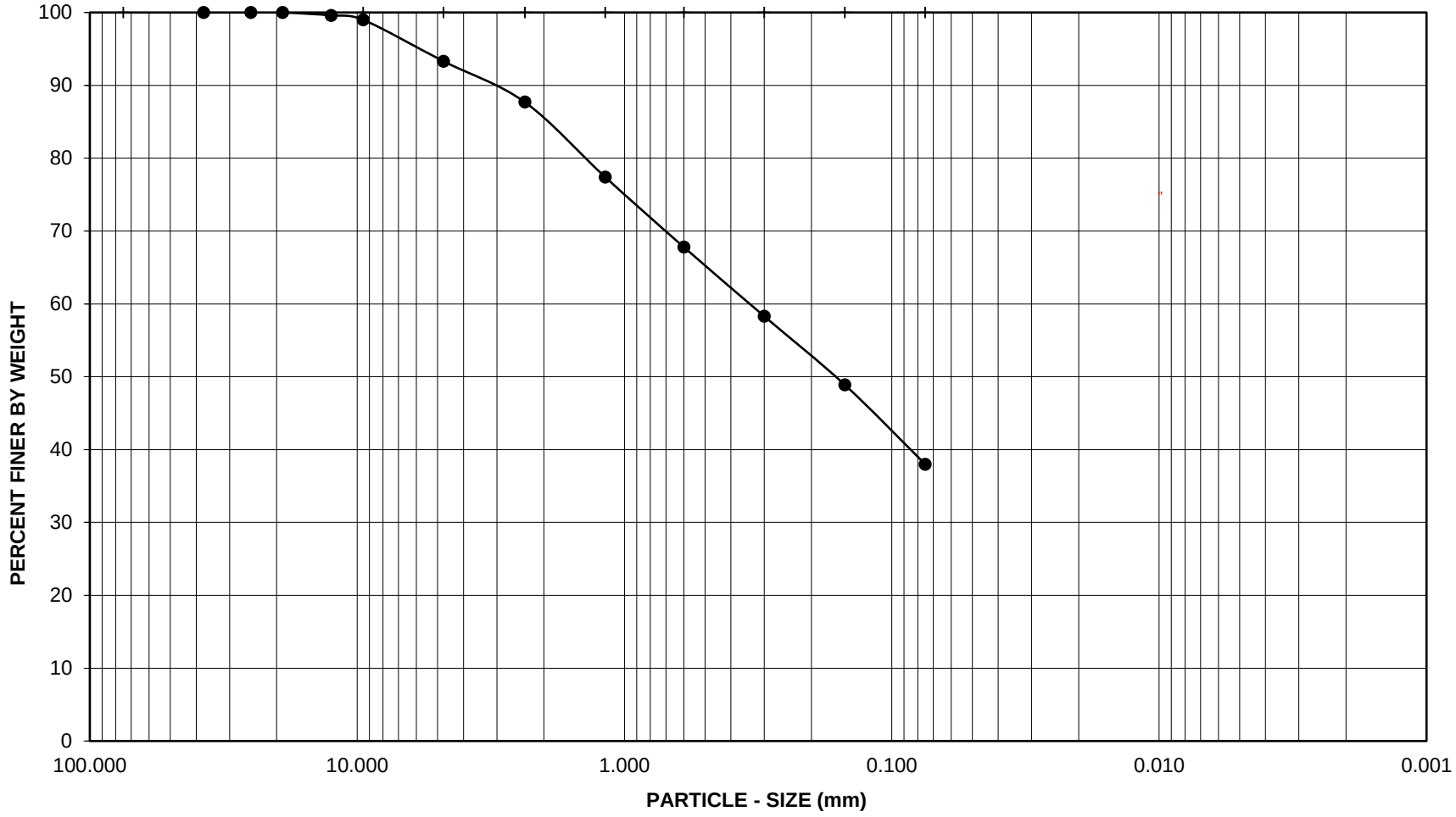
Remarks:

1646

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING — U.S. STANDARD SIEVE NUMBER — HYDROMETER

3.0" 1 1/2" 3/4" 3/8" #4 #8 #16 #30 #50 #100 #200



Project Name: Sage Wildomar Geo

Project No.: 13158.003

Boring No.: LB-1 Sample No.: B-1

Depth (feet): 5.0 Soil Type : SC-SM

Soil Identification: Silty, Clayey Sand (SC-SM), Dark Reddish Brown.

GR:SA:FI : (%) 7 : 55 : 38

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Sep-21

Leighton

PARTICLE-SIZE DISTRIBUTION (GRADATION) of SOILS USING SIEVE ANALYSIS

ASTM D 6913

Project Name: Sage Wildomar Geo
Project No.: 13158.003
Boring No.: LB-6
Sample No.: B-1
Soil Identification: Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.

Tested By: MRV Date: 09/28/21
Checked By: MRV Date: 09/28/21
Depth (feet): 0.0

Calculation of Dry Weights	Whole Sample	Sample Passing #4	Moisture Contents	Whole Sample	Sample passing #4
Container No.:	B	B	Wt. of Air-Dry Soil + Cont.(g)	2137.6	988.6
Wt. Air-Dried Soil + Cont.(g)	2137.6	988.6	Wt. of Dry Soil + Cont. (g)	2059.2	988.6
Wt. of Container (g)	673.2	673.2	Wt. of Container No._____(g)	673.2	673.2
Dry Wt. of Soil (g)	1385.4	315.4	Moisture Content (%)	5.7	0.0

Passing #4 Material After Wet Sieve	
Container No.	B
Wt. of Dry Soil + Container (g)	868.5
Wt. of Container (g)	673.2
Dry Wt. of Soil Retained on # 200 Sieve (g)	195.3

U. S. Sieve Size		Cumulative Weight of Dry Soil Retained (g)		Percent Passing (%)
	(mm.)	Whole Sample	Sample Passing #4	
1 1/2"	37.500	0.0		100.0
1"	25.000	46.5		96.6
3/4"	19.000	70.5		94.9
1/2"	12.500	94.3		93.2
3/8"	9.500	99.0		92.9
#4	4.750	149.5		89.2
#8	2.360		31.3	80.3
#16	1.180		65.1	70.8
#30	0.600		91.4	63.4
#50	0.300		117.0	56.1
#100	0.150		149.0	47.1
#200	0.075		188.2	36.0
PAN				

GRAVEL: **11 %**
SAND: **53 %**
FINES: **36 %**
GROUP SYMBOL: **SC-SM**

Cu = D60/D10 = N/A
Cc = $(D30)^2/(D60*D10)$ = N/A

Remarks:

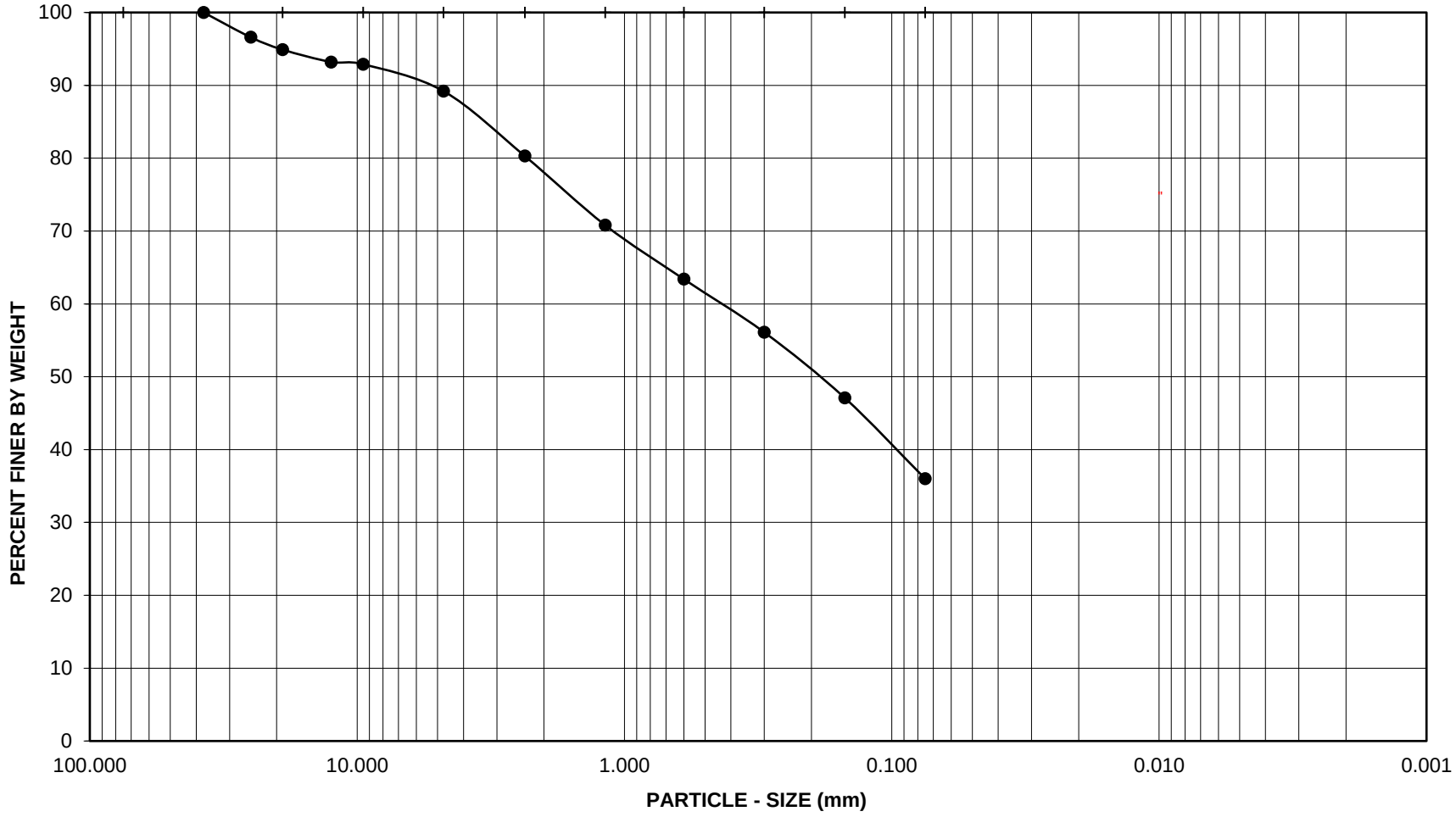
1648

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

U.S. STANDARD SIEVE OPENING: 3.0" 1 1/2" 3/4" 3/8"

U.S. STANDARD SIEVE NUMBER: #4 #8 #16 #30 #50 #100 #200

HYDROMETER



Project Name: Sage Wildomar Geo

Project No.: 13158.003

Leighton

PARTICLE - SIZE DISTRIBUTION ASTM D 6913

Boring No.: LB-6 Sample No.: B-1

Depth (feet): 0.0 Soil Type : SC-SM

Soil Identification: Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.

GR:SA:FI : (%) 11 : 53 : 36

Sep-21

Sieve; LB-6, B-1 (09-13-21)

Boring No.	LB-3							
Sample No.	S-2							
Depth (ft.)	35.0							
Sample Type	SPT							
Soil Classification	s(CL)							
Soak Time (min)	10							
Moisture Correction								
Wet Weight of Soil + Container (gm.)	853.7							
Dry Weight of Soil + Container (gm.)	829.8							
Weight of Container (gm)	699.6							
Moisture Content (%)	18.4							
Container No.:	1							
Sample Dry Weight Determination								
Weight of Sample + Container (gm.)	829.8							
Weight of Container (gm.)	699.6							
Weight of Dry Sample (gm.)	130.2							
Container No.:	1							
After Wash								
Dry Weight of Sample + Container (gm)	739.0							
Weight of Container (gm)	699.6							
Dry Weight of Sample (gm)	39.4							
% Passing No. 200 Sieve	**70**							
% Retained No. 200 Sieve	30							

Leighton

PERCENT PASSING
No. 200 SIEVE
ASTM D 1140

Project Name: Sage Wildomar Geo
Project No.: 13158.003
Client Name: Sage Investco
Tested By: F. Mina Date: 09/24/21

One-Dimensional Swell or Settlement Potential of Cohesive Soils

(ASTM D 4546) -- Method 'B'

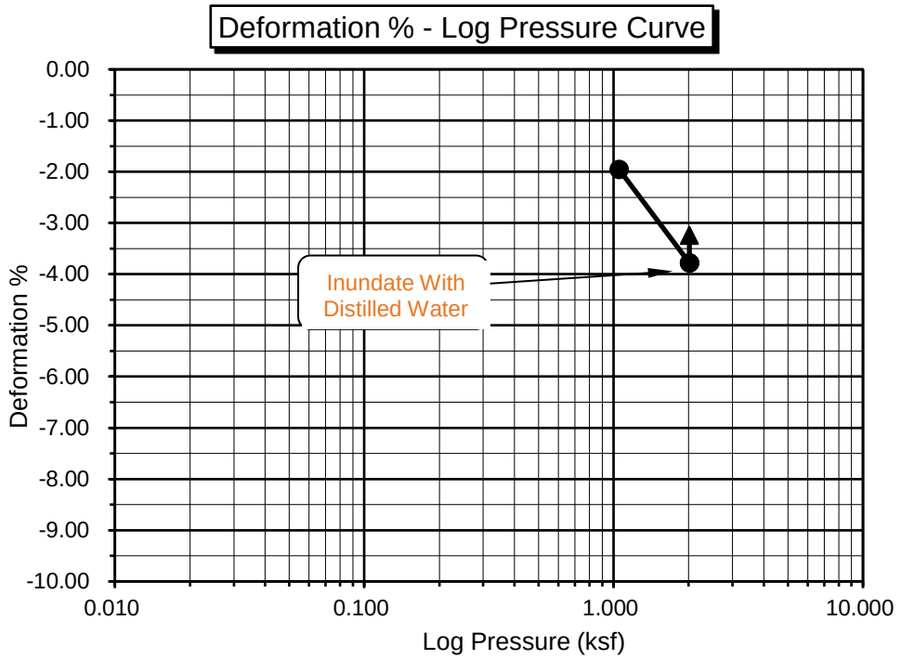
Project Name: Sage Wildomar Geo | Tested By: F. Mina | Date: 9/23/21
Project No.: 13158.003 | Checked By: M. Vinet | Date: 9/28/21
Boring No.: LB-3 | Sample Type: IN SITU
Sample No.: R-3 | Depth (ft.) 15.0
Sample Description: Clayey Sand (SC), Dark Reddish Brown.
Source and Type of Water Used for Inundation: Arrowhead (Distilled)
** Note: Loading After Wetting (Inundation) not Performed Using this Test Method.

Initial Dry Density (pcf):	116.2
Initial Moisture (%):	13.5
Initial Height (in.):	1.0000
Initial Dial Reading (in):	0.0000
Inside Diameter of Ring (in):	2.416

Final Dry Density (pcf):	120.1
Final Moisture (%) :	15.8
Initial Void ratio:	0.4509
Specific Gravity (assumed):	2.70
Initial Degree of Saturation (%):	80.9

Pressure (p) (ksf)	Final Reading (in)	Apparent Thickness (in)	Load Compliance (%)	Swell (+) Settlement (-) % of Sample Thickness	Void Ratio	Corrected Deformation (%)
1.050	0.0195	0.9805	0.00	-1.95	0.4226	-1.95
2.013	0.0378	0.9622	0.00	-3.78	0.3961	-3.78
H2O	0.0324	0.9676	0.00	-3.24	0.4039	-3.24

Percent Swell / Settlement After Inundation = **0.56**



Rev. 01-10

TESTS for SULFATE CONTENT
CHLORIDE CONTENT and pH of SOILS

Project Name: Sage Wildomar Geo Tested By : F. Mina Date: 09/28/21

Project No. : 13158.003 Data Input By: M. Vinet Date: 09/28/21

Boring No.	LB-2	TP-6		
Sample No.	B-1	B-1		
Sample Depth (ft)	0.0	4.0 - 10.0		
Soil Identification:	Lean Clay with Sand (CL)s	Silty Sand (SM)		
Wet Weight of Soil + Container (g)	100.00	100.00		
Dry Weight of Soil + Container (g)	100.00	100.00		
Weight of Container (g)	0.00	0.00		
Moisture Content (%)	0.00	0.00		
Weight of Soaked Soil (g)	100.00	100.00		

SULFATE CONTENT, DOT California Test 417, Part II

Beaker No.	1	2		
Crucible No.	1	2		
Furnace Temperature (°C)	850	850		
Time In / Time Out	Timer	Timer		
Duration of Combustion (min)	45	45		
Wt. of Crucible + Residue (g)	25.0275	24.7653		
Wt. of Crucible (g)	25.0250	24.7623		
Wt. of Residue (g) (A)	0.0025	0.0030		
PPM of Sulfate (A) x 41150	102.88	123.45		
PPM of Sulfate, Dry Weight Basis	**103**	**123**		

CHLORIDE CONTENT, DOT California Test 422

ml of Extract For Titration (B)	30	30		
ml of AgNO3 Soln. Used in Titration (C)	1.4	0.6		
PPM of Chloride (C -0.2) * 100 * 30 / B	120	40		
PPM of Chloride, Dry Wt. Basis	**120**	**40**		

pH TEST, DOT California Test 643

pH Value	**7.90**	**7.20**		
Temperature °C	21.0	21.0		

SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	Sage Wildomar Geo		Tested By :	F. Mina	Date: 09/28/21
Project No. :	13158.003		Data Input By:	M. Vinet	Date: 09/28/21
Boring No.:	LB-2		Depth (ft.) :	0.0	
Sample No. :	B-1				

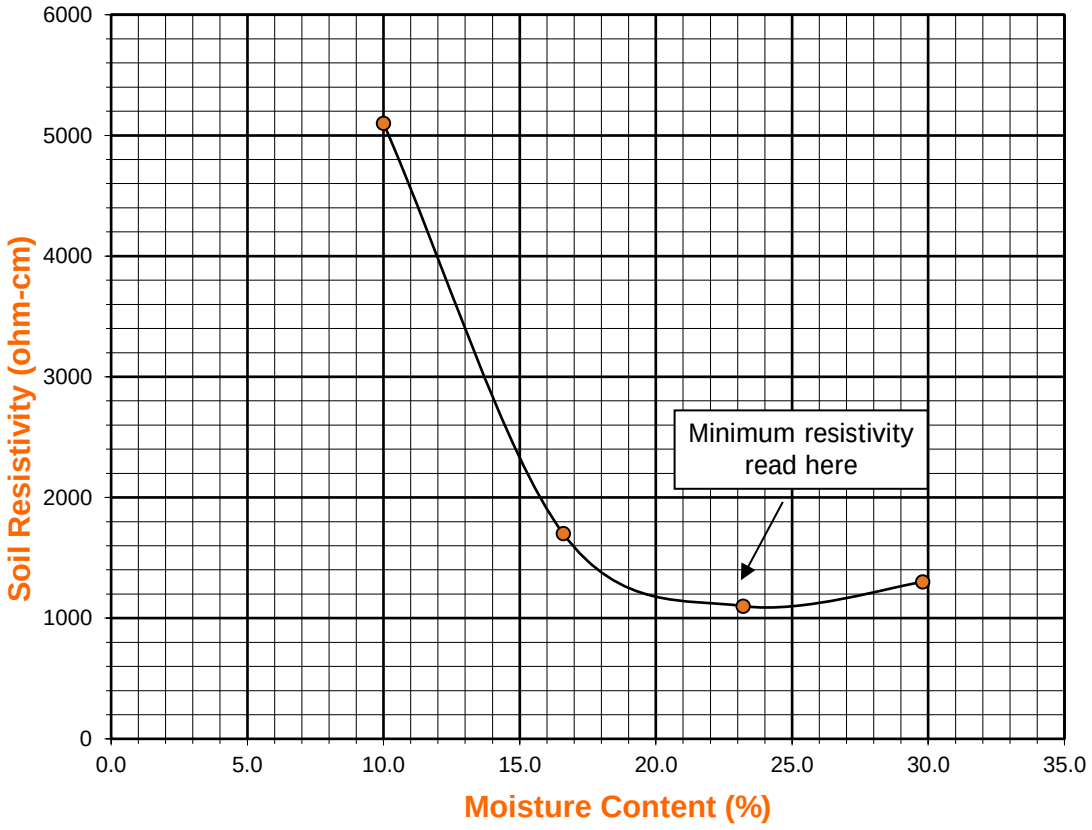
Soil Identification:* Lean Clay with Sand (CL)s

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	50	10.00	5100	5100
2	83	16.60	1700	1700
3	116	23.20	1100	1100
4	149	29.80	1300	1300
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	100.00
Dry Wt. of Soil + Cont. (g)	100.00
Wt. of Container (g)	0.00
Container No.	A
Initial Soil Wt. (g) (Wt)	500.00
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
1100	**23.2**	**103**	**120**	**7.90**	**21.0**



SOIL RESISTIVITY TEST

DOT CA TEST 643

Project Name:	Sage Wildomar Geo		Tested By :	F. Mina	Date: 09/28/21
Project No. :	13158.003		Data Input By:	M. Vinet	Date: 09/28/21
Boring No.:	TP-6		Depth (ft.) :	4.0 - 10.0	
Sample No. :	B-1				

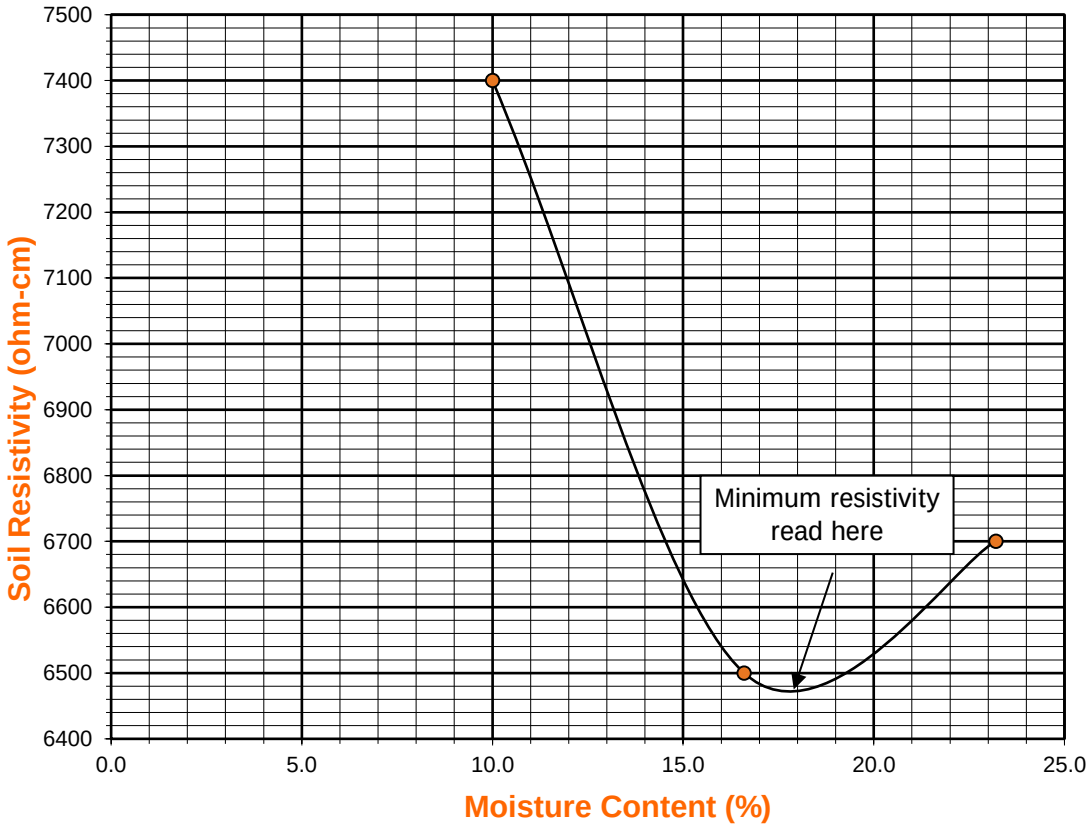
Soil Identification:* Silty Sand (SM)

*California Test 643 requires soil specimens to consist only of portions of samples passing through the No. 8 US Standard Sieve before resistivity testing. Therefore, this test method may not be representative for coarser materials.

Specimen No.	Water Added (ml) (Wa)	Adjusted Moisture Content (MC)	Resistance Reading (ohm)	Soil Resistivity (ohm-cm)
1	50	10.00	7400	7400
2	83	16.60	6500	6500
3	116	23.20	6700	6700
4				
5				

Moisture Content (%) (MCi)	0.00
Wet Wt. of Soil + Cont. (g)	100.00
Dry Wt. of Soil + Cont. (g)	100.00
Wt. of Container (g)	0.00
Container No.	A
Initial Soil Wt. (g) (Wt)	500.00
Box Constant	1.000
MC =(((1+Mci/100)x(Wa/Wt+1))-1)x100	

Min. Resistivity (ohm-cm)	Moisture Content (%)	Sulfate Content (ppm)	Chloride Content (ppm)	Soil pH	
				pH	Temp. (°C)
DOT CA Test 643		DOT CA Test 417 Part II	DOT CA Test 422	DOT CA Test 643	
6475	**18.0**	**123**	**40**	**7.20**	**21.0**



EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Sage Wildomar Geo	Tested By:	F. Mina	Date:	9/27/21
Project No. :	13158.003	Checked By:	M. Vinet	Date:	9/28/21
Boring No.:	LB-6	Depth:	0.0		
Sample No. :	B-1	Location:	N/A		
Sample Description:	Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.				

Dry Wt. of Soil + Cont. (gm.)	1385.4
Wt. of Container No. (gm.)	0.0
Dry Wt. of Soil (gm.)	1385.4
Weight Soil Retained on #4 Sieve	149.5
Percent Passing # 4	89.2

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0169
Wt. Comp. Soil + Mold (gm.)	620.1	642.3
Wt. of Mold (gm.)	200.4	200.4
Specific Gravity (Assumed)	2.70	2.70
Container No.	8	8
Wet Wt. of Soil + Cont. (gm.)	300.0	642.3
Dry Wt. of Soil + Cont. (gm.)	276.5	386.8
Wt. of Container (gm.)	0.0	200.4
Moisture Content (%)	8.5	14.2
Wet Density (pcf)	126.6	131.1
Dry Density (pcf)	116.7	114.7
Void Ratio	0.445	0.469
Total Porosity	0.308	0.319
Pore Volume (cc)	63.7	67.2
Degree of Saturation (%) [S meas]	**51.6**	**81.9**

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h.

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
9/27/21	13:00	1.0	0	0.5000
9/27/21	13:10	1.0	10	0.5000
	Add Distilled Water to the Specimen			
9/28/21	7:00	1.0	1070	0.5169
9/28/21	8:00	1.0	1130	0.5169

Expansion Index (EI meas) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	16.9
Expansion Index (Report) = Nearest Whole Number or Zero (0) if Initial Height is > than Final Heigh	**17**

Rev. 03-08

EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Sage Wildomar Geo	Tested By:	F. Mina	Date:	9/27/21
Project No. :	13158.003	Checked By:	M. Vinet	Date:	9/28/21
Boring No.:	TP-1	Depth:	1.6 - 3.5		
Sample No. :	B-1	Location:	N/A		
Sample Description:	Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.				

Dry Wt. of Soil + Cont. (gm.)	1270.9
Wt. of Container No. (gm.)	0.0
Dry Wt. of Soil (gm.)	1270.9
Weight Soil Retained on #4 Sieve	64.1
Percent Passing # 4	95.0

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0165
Wt. Comp. Soil + Mold (gm.)	615.2	633.5
Wt. of Mold (gm.)	199.4	199.4
Specific Gravity (Assumed)	2.70	2.70
Container No.	7	7
Wet Wt. of Soil + Cont. (gm.)	300.0	633.5
Dry Wt. of Soil + Cont. (gm.)	276.5	383.2
Wt. of Container (gm.)	0.0	199.4
Moisture Content (%)	8.5	13.3
Wet Density (pcf)	125.4	128.8
Dry Density (pcf)	115.6	113.7
Void Ratio	0.458	0.482
Total Porosity	0.314	0.325
Pore Volume (cc)	65.1	68.5
Degree of Saturation (%) [S meas]	**50.1**	**74.3**

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h.

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
9/27/21	12:00	1.0	0	0.5000
9/27/21	12:10	1.0	10	0.5000
	Add Distilled Water to the Specimen			
9/28/21	7:00	1.0	1130	0.5165
9/28/21	8:00	1.0	1190	0.5165

Expansion Index (EI meas) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	16.5
Expansion Index (Report) = Nearest Whole Number or Zero (0) if Initial Height is > than Final Heigh	**17**

Rev. 03-08

Leighton

EXPANSION INDEX of SOILS

ASTM D 4829

Project Name:	Sage Wildomar Geo	Tested By:	F. Mina	Date:	10/18/21
Project No. :	13158.003	Checked By:	M. Vinet	Date:	10/19/21
Boring No.:	LB-5	Depth:	2.5 - 5.0		
Sample No. :	R-1 & R-2	Location:	N/A		
Sample Description:	Silty, Clayey Sand (SC-SM), Dark Yellowish Brown.				

Dry Wt. of Soil + Cont. (gm.)	1501.2
Wt. of Container No. (gm.)	0.0
Dry Wt. of Soil (gm.)	1501.2
Weight Soil Retained on #4 Sieve	34.1
Percent Passing # 4	97.7

MOLDED SPECIMEN	Before Test	After Test
Specimen Diameter (in.)	4.01	4.01
Specimen Height (in.)	1.0000	1.0327
Wt. Comp. Soil + Mold (gm.)	612.0	639.1
Wt. of Mold (gm.)	200.4	200.4
Specific Gravity (Assumed)	2.70	2.70
Container No.	4	4
Wet Wt. of Soil + Cont. (gm.)	300.0	639.1
Dry Wt. of Soil + Cont. (gm.)	276.5	379.4
Wt. of Container (gm.)	0.0	200.4
Moisture Content (%)	8.5	15.6
Wet Density (pcf)	124.2	128.1
Dry Density (pcf)	114.4	110.8
Void Ratio	0.473	0.521
Total Porosity	0.321	0.343
Pore Volume (cc)	66.5	73.3
Degree of Saturation (%) [S meas]	**48.5**	**81.0**

SPECIMEN INUNDATION in distilled water for the period of 24 h or expansion rate < 0.0002 in./h.

Date	Time	Pressure (psi)	Elapsed Time (min.)	Dial Readings (in.)
10/18/21	14:00	1.0	0	0.5000
10/18/21	14:10	1.0	10	0.5000
	Add Distilled Water to the Specimen			
10/19/21	5:30	1.0	920	0.5327
10/19/21	6:30	1.0	980	0.5327

Expansion Index (EI meas) = ((Final Rdg - Initial Rdg) / Initial Thick.) x 1000	32.7
Expansion Index (Report) = Nearest Whole Number or Zero (0) if Initial Height is > than Final Height	**33**

Rev. 03-08

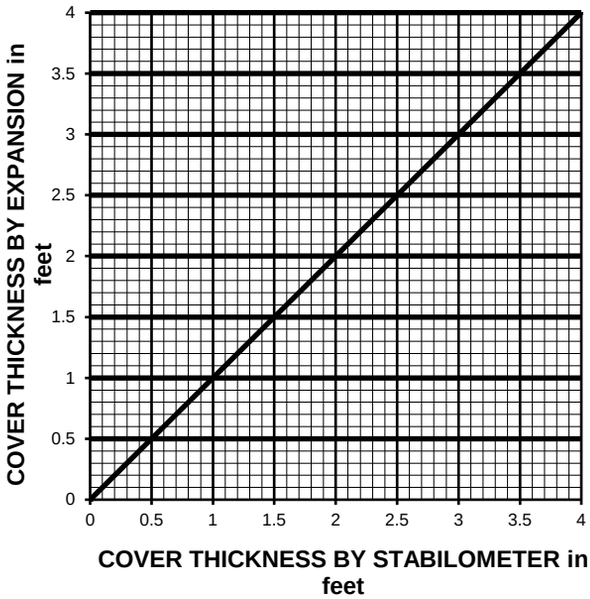
R-VALUE TEST RESULTS
ASTM D 2844

Project Name:	Sage Wildomar Geo	Date:	9/9/21
Project Number:	13158.003	Technician:	F. Mina
Boring Number:	LB-2	Depth (ft.):	0.0
Sample Number:	B-1	Sample Location:	N/A
Sample Description:	Lean Clay with Sand (CL)s, Dark Reddish Brown.		

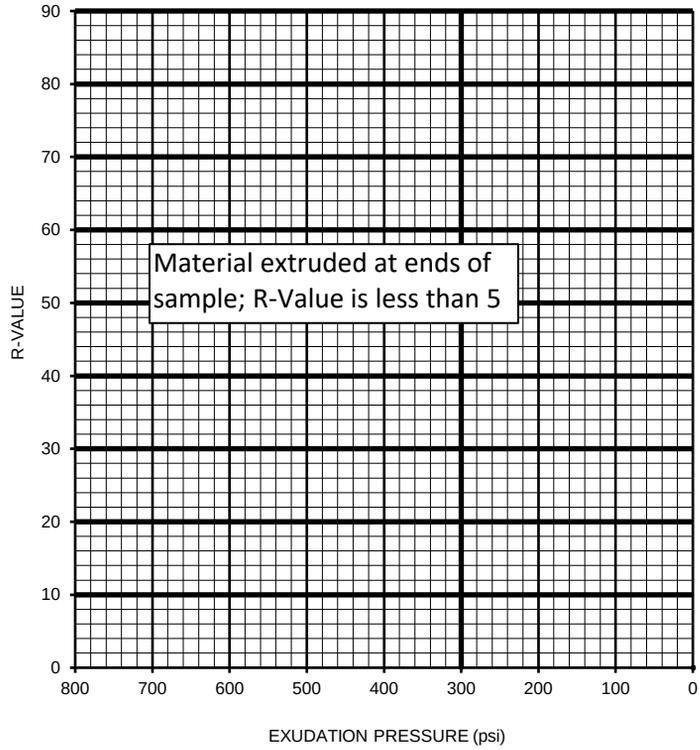
TEST SPECIMEN	A	B	C
MOISTURE AT COMPACTION %			
HEIGHT OF SAMPLE, Inches			
DRY DENSITY, pcf			
COMPACTOR AIR PRESSURE, psi			
EXUDATION PRESSURE, psi			
EXPANSION, Inches x 10exp-4			
STABILITY Ph 2,000 lbs (160 psi)			
TURNS DISPLACEMENT			
R-VALUE UNCORRECTED	N/A	N/A	N/A
R-VALUE CORRECTED	N/A	N/A	N/A

DESIGN CALCULATION DATA	a	b	c
GRAVEL EQUIVALENT FACTOR	0.0	0.0	0.0
TRAFFIC INDEX	5.0	5.0	5.0
STABILOMETER THICKNESS, ft.	N/A	N/A	N/A
EXPANSION PRESSURE THICKNESS, ft.	N/A	N/A	N/A

EXPANSION PRESSURE CHART



EXUDATION PRESSURE CHART



R-VALUE BY EXPANSION:	N/A
R-VALUE BY EXUDATION:	N/A
EQUILIBRIUM R-VALUE:	< 5

SAND EQUIVALENT TEST

ASTM D 2419 / DOT CA Test 217

Project Name:	Sage Wildomar Geo	Tested By:	F. Mina	Date:	9/28/21
Project No. :	13158.003	Computed By:	F. Mina	Date:	9/28/21
Client:	Sage Investco	Checked By:	M. Vinet	Date:	9/28/21

Boring No.	Sample No.	Depth (ft.)	Soil Description	T1	T2	T3	T4	R1	R2	SE	Average SE
LB-6	B-1	0.0	Silty, Clayey Sand (SC-SM)	09:10	09:20	09:22	09:42	11.5	1.6	14	**15**
				09:12	09:22	09:24	09:44	11.9	1.7	15	

T1 = Starting Time

T2 = (T1 + 10 min) Begin Agitation

T3 = Settlement Starting Time

T4 = (T3 + 20 min) Take Clay Reading (R1)

Sand Equivalent = R2 / R1 * 100

Record SE as Next Higher Integer

APPENDIX C

EARTHWORK AND GRADING SPECIFICATIONS

APPENDIX C

GENERAL EARTHWORK AND GRADING SPECIFICATIONS

TABLE OF CONTENTS

Section			Page
1.0	GENERAL		1
	1.1	Intent	1
	1.2	The Geotechnical Consultant of Record	1
	1.3	The Earthwork Contractor	2
2.0	PREPARATION OF AREAS TO BE FILLED		2
	2.1	Clearing and Grubbing	2
	2.2	Processing	3
	2.3	Overexcavation	3
	2.4	Benching	3
	2.5	Evaluation/Acceptance of Fill Areas	3
3.0	FILL MATERIAL		4
	3.1	General	4
	3.2	Oversize	4
	3.3	Import	4
4.0	FILL PLACEMENT AND COMPACTION		4
	4.1	Fill Layers	4
	4.2	Fill Moisture Conditioning	5
	4.3	Compaction of Fill	5
	4.4	Compaction of Fill Slopes	5
	4.5	Compaction Testing	5
	4.6	Frequency of Compaction Testing	5
	4.7	Compaction Test Locations	6
5.0	SUBDRAIN INSTALLATION		6
6.0	EXCAVATION		6
7.0	TRENCH BACKFILLS		6
	7.1	Safety 6	
	7.2	Bedding & Backfill	7
	7.3	Lift Thickness	7
	7.4	Observation and Testing	7

Standard Details

A - Keying and Benching	Rear of Text
B - Oversize Rock Disposal	Rear of Text
C - Canyon Subdrains	Rear of Text
D - Buttress or Replacement Fill Subdrains	Rear of Text
E - Transition Lot Fills and Side Hill Fills	Rear of Text
Retaining Wall	Rear of Text

1.0 General

1.1 Intent

These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record

Prior to commencement of work, the owner shall employ the Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultants shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required. Subsurface areas to be geotechnically observed, mapped, elevations recorded, and/or tested include natural ground after it has been cleared for receiving fill but before fill is placed, bottoms of all "remedial removal" areas, all key bottoms, and benches made on sloping ground to receive fill.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to determine the attained level of compaction. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor

The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The Contractor shall be solely responsible for performing the grading in accordance with the plans and specifications.

The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of "spreads" of work and the estimated quantities of daily earthwork contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate observations and tests can be planned and accomplished. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing

Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). No fill lift shall contain more than 5 percent of organic matter. Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed.

2.2 Processing

Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until soils are broken down and free of large clay lumps or clods and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Overexcavation

In addition to removals and overexcavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be overexcavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching

Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise overexcavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas

All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant

prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General

Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize

Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import

If importing of fill material is required for grading, proposed import material shall meet the requirements of Section 3.1. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers

Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning

Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557).

4.3 Compaction of Fill

After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes

In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557.

4.5 Compaction Testing

Field-tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing

Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations

The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 Safety

The Contractor shall follow all OSHA and Cal/OSHA requirements for safety of trench excavations.

7.2 Bedding and Backfill

All bedding and backfill of utility trenches shall be performed in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of relative compaction from 1 foot above the top of the conduit to the surface.

The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

7.3 Lift Thickness

Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

7.4 Observation and Testing

The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.

APPENDIX D

GBA - IMPORTANT INFORMATION ABOUT THIS GEOTECHNICAL REPORT

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org

Copyright 2019 by Geoprofessional Business Association (GBA). Duplication, reproduction, or copying of this document, in whole or in part, by any means whatsoever, is strictly prohibited, except with GBA's specific written permission. Excerpting, quoting, or otherwise extracting wording from this document is permitted only with the express written permission of GBA, and only for purposes of scholarly research or book review. Only members of GBA may use this document or its wording as a complement to or as an element of a report of any kind. Any other firm, individual, or other entity that so uses this document without being a GBA member could be committing negligent or intentional (fraudulent) misrepresentation.

Appendix 4: Historical Site Conditions

Phase I Environmental Site Assessment or Other Information on Past Site Use

'N.A.'

Appendix 5: LID Feasibility Supplemental Information

Information that supports or supplements the determination of LID technical feasibility documented in Section D

'N.A.'

Appendix 6: LID BMP Design Details

BMP Sizing, Design Details and other Supporting Documentation to supplement Section D

Santa Margarita Watershed

BMP Design Flow Rate, Q_{BMP} (Rev. 03-2012)

Legend: Required Entries / Calculated Cells

Company Name	DRC Engineering	Date	11/10/2021
Designed by	YH	County/City Case No	
Company Project Number/Name	21-994 Wildomar Trail Mix-Use Project		
Drainage Area Number/Name	DMA-A1		

Enter the Area Tributary to this Feature A_T = 2.7 acres

Determine the Effective Impervious Fraction

Type of post-development surface cover (use pull down menu): Mixed Surface Types

Effective Impervious Fraction I_f = 0.91

Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$

C = 0.74

BMP Design Flow Rate

$Q_{BMP} = C \times I \times A_T$

Q_{BMP} = 0.399 t^3/s

Notes:

Santa Margarita Watershed

BMP Design Flow Rate, Q_{BMP} (Rev. 03-2012)

Legend: Required Entries / Calculated Cells

Company Name	DRC Engineering	Date	11/10/2021
Designed by	YH	County/City Case No	
Company Project Number/Name	21-994 Wildomar Trail Mix-Use Project		
Drainage Area Number/Name	DMA-A2		

Enter the Area Tributary to this Feature A_T = 1.7 acres

Determine the Effective Impervious Fraction

Type of post-development surface cover (use pull down menu): Mixed Surface Types

Effective Impervious Fraction I_f = 0.88

Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$

C = 0.70

BMP Design Flow Rate

$Q_{BMP} = C \times I \times A_T$

Q_{BMP} = 0.238 ft^3/s

Notes:

Santa Margarita Watershed

BMP Design Flow Rate, Q_{BMP} (Rev. 03-2012)

Legend: Required Entries / Calculated Cells

Company Name	DRC Engineering	Date	11/10/2021
Designed by	YH	County/City Case No	
Company Project Number/Name	21-994 Wildomar Trail Mix-Use Project		
Drainage Area Number/Name	DMA-B1		

Enter the Area Tributary to this Feature A_T = 3.24 acres

Determine the Effective Impervious Fraction

Type of post-development surface cover (use pull down menu): Mixed Surface Types

Effective Impervious Fraction I_f = 0.88

Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$

C = 0.70

BMP Design Flow Rate

$Q_{BMP} = C \times I \times A_T$

Q_{BMP} = 0.454 ft^3/s

Notes:

Santa Margarita Watershed

BMP Design Flow Rate, Q_{BMP} (Rev. 03-2012)

Legend: Required Entries / Calculated Cells

Company Name	DRC Engineering
Date	11/10/2021
Designed by	YH
County/City Case No	
Company Project Number/Name	21-994 Wildomar Trail Mix-Use Project
Drainage Area Number/Name	DMA-B2

Enter the Area Tributary to this Feature A_T = 1.19 acres

Determine the Effective Impervious Fraction

Type of post-development surface cover (use pull down menu): Mixed Surface Types

Effective Impervious Fraction I_f = 0.88

Calculate the composite Runoff Coefficient, C for the BMP Tributary Area

Use the following equation based on the WEF/ASCE Method

$C = 0.858I_f^3 - 0.78I_f^2 + 0.774I_f + 0.04$

C = 0.70

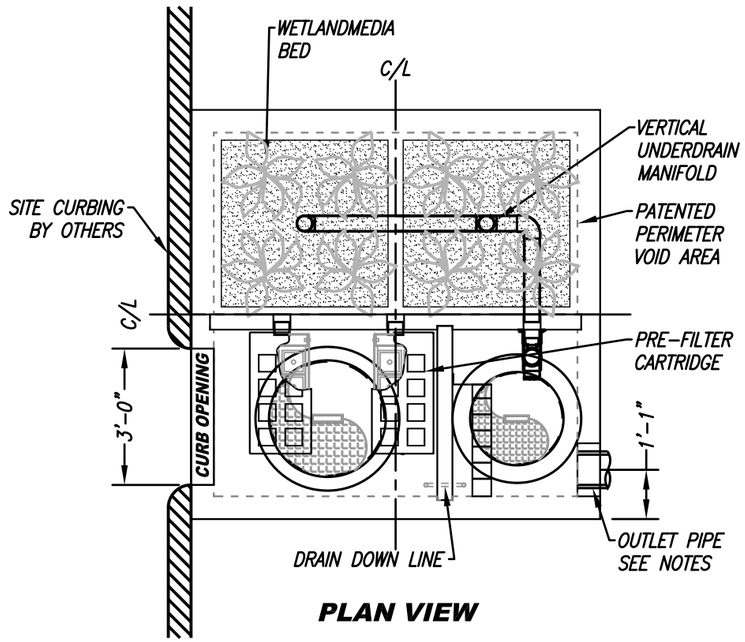
BMP Design Flow Rate

$Q_{BMP} = C \times I \times A_T$

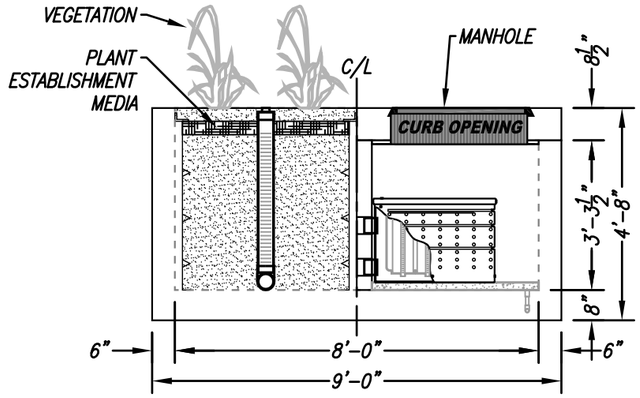
Q_{BMP} = 0.167 ft^3/s

Notes:

SITE SPECIFIC DATA			
PROJECT NUMBER			
ORDER NUMBER			
PROJECT NAME			
PROJECT LOCATION			
STRUCTURE ID			
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
TREATMENT HGL AVAILABLE (FT)			
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION			
SURFACE LOAD	PEDESTRIAN	OPEN PLANTER	PEDESTRIAN
FRAME & COVER	ø30"	N/A	ø24"
WETLANDMEDIA VOLUME (CY)			TBD
ORIFICE SIZE (DIA. INCHES)			TBD
NOTES: PRELIMINARY NOT FOR CONSTRUCTION.			



PLAN VIEW



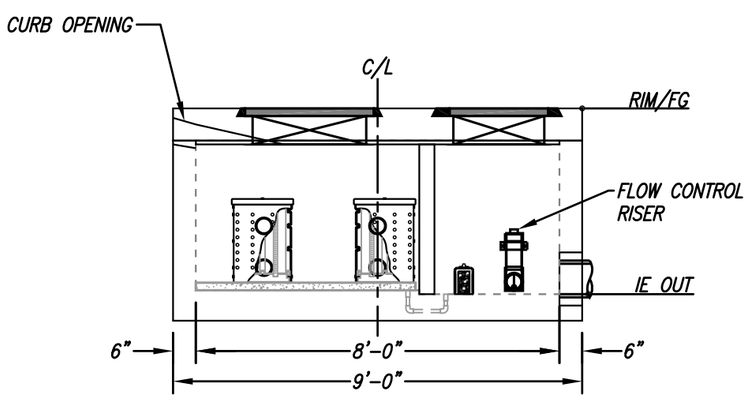
LEFT END VIEW

INSTALLATION NOTES

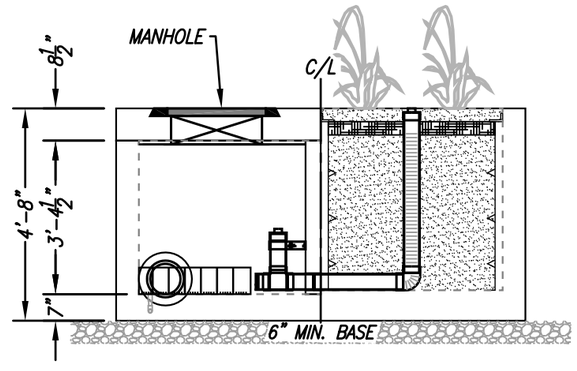
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATER TIGHT PER MANUFACTURERS STANDARD CONNECTION DETAIL.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURERS WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT BIO CLEAN.



ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.240
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	2.0
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

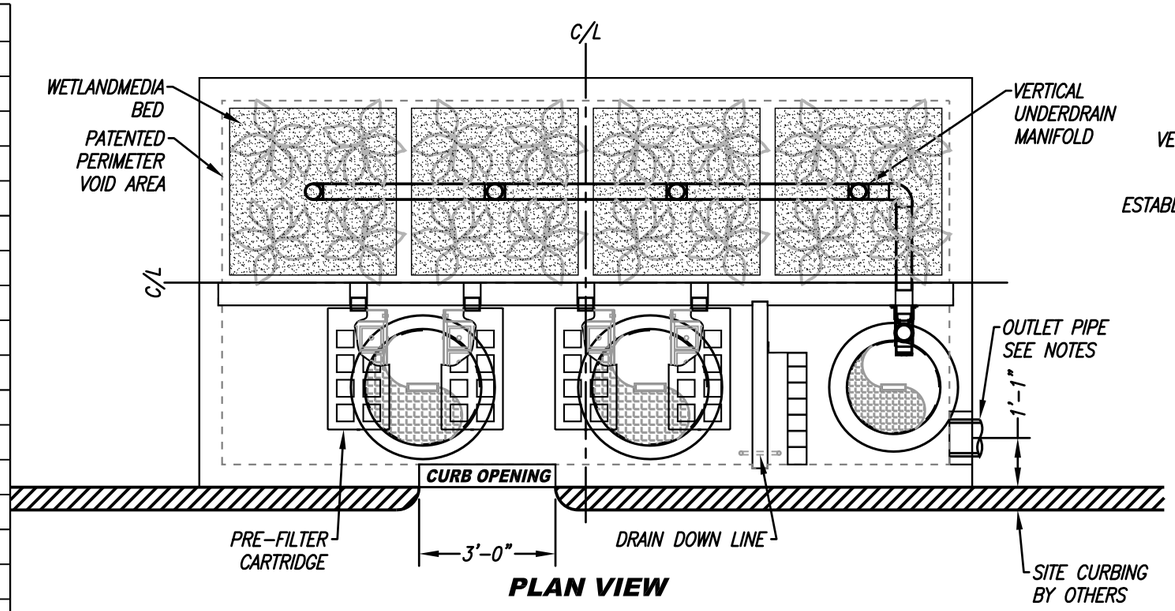
MODULAR WETLANDS
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING US PATENTS: 7,425,262; 7,470,362; 7,674,378; 8,303,816; RELATED FOREIGN PATENTS OR OTHER PATENTS PENDING

PROPRIETARY AND CONFIDENTIAL:
THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE SOLE PROPERTY OF FORTERRA AND ITS COMPANIES. THIS DOCUMENT, NOR ANY PART THEREOF, MAY BE USED, REPRODUCED OR MODIFIED IN ANY MANNER WITH OUT THE WRITTEN CONSENT OF FORTERRA.

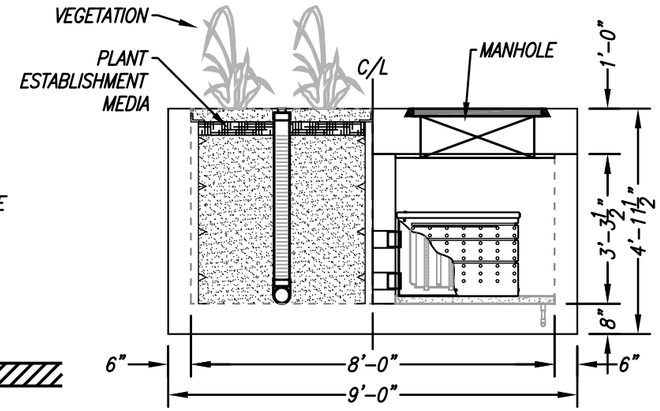
Bio Clean
A Forterra Company

MWS-L-8-8-C
STORMWATER BIOFILTRATION SYSTEM
STANDARD DETAIL

SITE SPECIFIC DATA			
PROJECT NUMBER			
ORDER NUMBER			
PROJECT NAME			
PROJECT LOCATION			
STRUCTURE ID			
TREATMENT REQUIRED			
VOLUME BASED (CF)		FLOW BASED (CFS)	
TREATMENT HGL AVAILABLE (FT)			
PEAK BYPASS REQUIRED (CFS) – IF APPLICABLE			
PIPE DATA	I.E.	MATERIAL	DIAMETER
INLET PIPE 1			
INLET PIPE 2			
OUTLET PIPE			
	PRETREATMENT	BIOFILTRATION	DISCHARGE
RIM ELEVATION			
SURFACE LOAD	PEDESTRIAN	OPEN PLANTER	PEDESTRIAN
FRAME & COVER	2EA ø30"	N/A	ø24"
WETLANDMEDIA VOLUME (CY)			TBD
ORIFICE SIZE (DIA. INCHES)			TBD
NOTES: PRELIMINARY NOT FOR CONSTRUCTION.			



PLAN VIEW



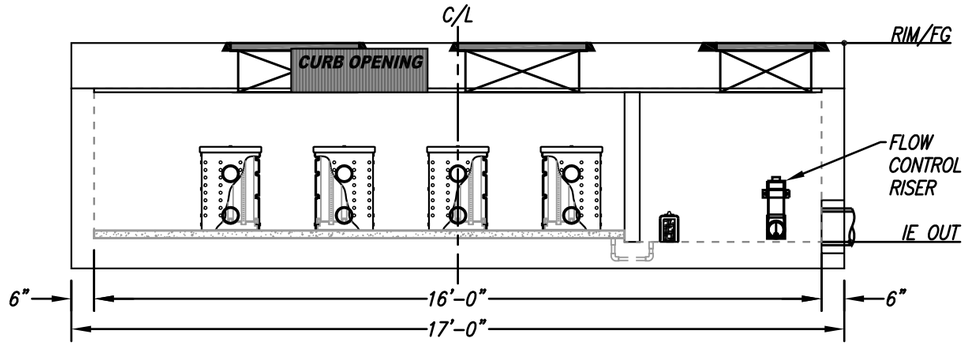
LEFT END VIEW

INSTALLATION NOTES

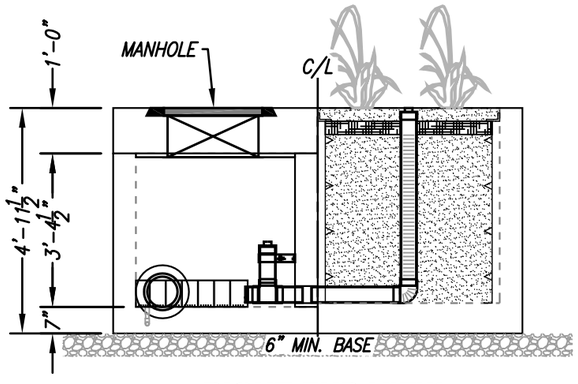
1. CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURERS SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURERS CONTRACT.
2. UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE UNLESS SPECIFIED BY THE PROJECT ENGINEER. CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEERS RECOMMENDED BASE SPECIFICATIONS.
4. CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. (PIPES CANNOT INTRUDE BEYOND FLUSH). INVERT OF OUTFLOW PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATER TIGHT PER MANUFACTURERS STANDARD CONNECTION DETAIL.
5. CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES, AND HATCHES. CONTRACTOR TO GROUT ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
6. VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRIP OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
7. CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURERS WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

GENERAL NOTES

1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT BIO CLEAN.



ELEVATION VIEW



RIGHT END VIEW

TREATMENT FLOW (CFS)	0.462
OPERATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/SF)	2.0
WETLAND MEDIA LOADING RATE (GPM/SF)	1.0

MODULAR WETLANDS

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING US PATENTS: 7,425,262; 7,470,362; 7,674,378; 8,303,816; RELATED FOREIGN PATENTS OR OTHER PATENTS PENDING

PROPRIETARY AND CONFIDENTIAL:

THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE SOLE PROPERTY OF FORTERRA AND ITS COMPANIES. THIS DOCUMENT, NOR ANY PART THEREOF, MAY BE USED, REPRODUCED OR MODIFIED IN ANY MANNER WITH OUT THE WRITTEN CONSENT OF FORTERRA.

Bio Clean
A Forterra Company

MWS-L-8-16-C
STORMWATER BIOFILTRATION SYSTEM STANDARD DETAIL

FULL TRASH CAPTURE BMPS

AquaShield™

INNOVATING GOOD CLEAN WATER



AQUA-SWIRL® TRASH CAPTURE

HYDRODYNAMIC SEPARATOR

FEATURES

1. The Aqua-Swirl® Trash Capture is constructed of durable, lightweight, high performance materials to withstand up to HS-25 loads.
2. Floatable trash, debris and coarse sediments enter tangentially into the unit.
3. Vortex separation removes coarse particles of TSS, floatable debris, and free oil.
4. Stainless steel screen removes trash larger than 5 mm.
5. Independent testing & validation for 100% trash removal larger than 5 mm before discharging into sensitive receiving waters.







Water Boards

Aqua-Swirl® TRASH CAPTURE System

AQUA-SWIRL® TRASH CAPTURE

- Provides customized solutions for project specific requirements.
- Systems designed for specific water quality treatment flow rates.
- Modular sizes from 2.5 – 13 ft diameters with attached riser(s) to finish grade.
- Online project and system design tool at http://pda.aquashieldinc.com.

Vortex Separation Technology

- Utilizes hydrodynamic and gravitational forces incorporating a stainless steel screen to remove trash/debris greater than 5mm, coarse sediment (TSS), and free oil.
- Extensive full-scale laboratory testing with independent 3rd parties.
- Certified Full Trash Capture device by CA State Water Resources Control Board.

Bypass Designs

- Systems are designed to treat water quality flow rates and bypass peak storm events.
- Internal and external bypass configurations are available and tailored to site-specific needs.

Pipe Connections

- Systems are designed with custom inlet/outlet diameters at various configuration angles.
- Inlet/outlet stub outs are provided for easy coupling to storm drain lines.
- Easily plumbed to RCP, CMP, PVC, and HDPE piping with dissimilar pipe diameters.

Installation Benefits

- Quick and simple installation, resulting in measurable project cost savings.
- Designed to withstand HS-25 loadings with capabilities of heavier loads available.
- Small footprint design reduces excavation costs.
- Lightweight and durable construction eliminating the need of a crane.
- Lifting lugs attached for easy maneuverability on site.

Storage Capacities

- Large storage capacities for sediment, debris and free oil to extend maintenance frequency.
- Screened trash capture storage capacities up to 122 ft3.
- Sediment storage capacities up to 310 ft3.

Inspection & Maintenance

- AquaShield™ offers an extensive network of local service providers across the country to ensure system performance efficiency.
- I&M manuals are available to download at www.aquashieldinc.com.



AquaShield™
WATER TREATMENT SOLUTIONS

www.aquashieldinc.com

2733 Kanasita Dr., Ste 111
Chattanooga, TN 37343

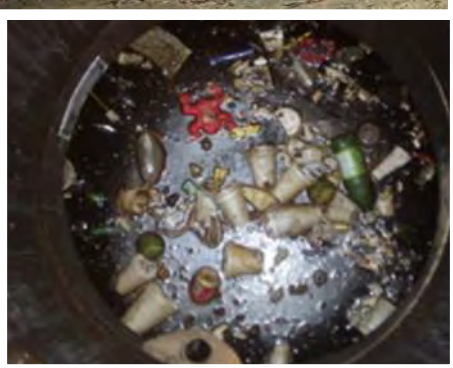
888.344.9044
423.870.8888
423.826.2112 (fax)

APPROVED: Aqua-Swirl® Full Trash Capture Device receives approval

from CA State Water Resources Control Board

AquaShield™ and Prinsco are proud to announce the approval of the Aqua-Swirl® by the CA SWRCB for projects requiring full trash capture. Aqua-Swirl® is a hydrodynamic separation device and is part of a full line of stormwater treatment products engineered to meet the growing need for filtration and pollutant removal from stormwater runoff.







Aqua-Swirl® captures and retains floatable materials.

AQUA-SWIRL® SIZING
(CERTIFIED TRASH CAPTURE DEVICE)

Aqua-Swirl® Model	Trash Capture Treatment Capacity (cfs)
AS-2s	1.1
AS-3s	2.1
AS-4s	3.5
AS-5s	4.4
AS-6s	6.3
AS-7s	8.6
AS-8s	11.2
AS-9s	14.2
AS-10s	17.5
AS-11s	21.2
AS-12s	25.2
AS-13s	29.6
AS-XXs	Custom

AQUA-SWIRL®

PRINSCO® ENGINEERED WITH INTEGRITY™

For more information: www.prinsco.com • 800.992.1725

Appendix 7:
Hydromodification & Critical Coarse Sediment

Supporting Detail for Hydromodification compliance & Exhibit G - CCSY & PSS Areas with the project location.

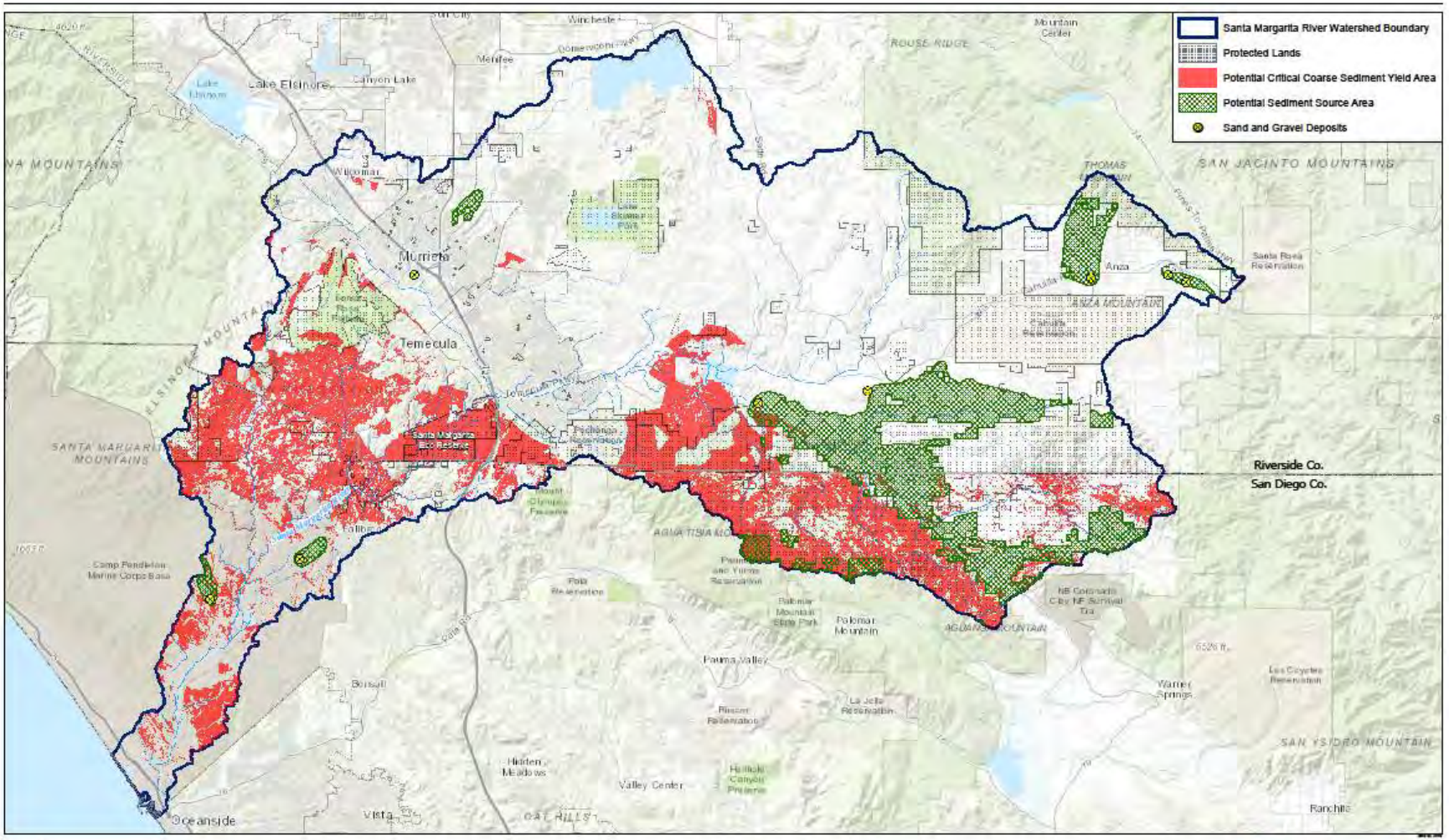


Exhibit G-1

SANTA MARGARITA RIVER WATERSHED
POTENTIAL CRITICAL COARSE SEDIMENT YIELD AREAS AND POTENTIAL SEDIMENT SOURCE AREAS

SMRHM
CALCULATIONS

BASIN A (DMA-A1 AND DMA-A2)

SMRHM
PROJECT REPORT

Project Name: 21994 SMRHM_1
Site Name: Wildomar Trail Mixed-Use Project
Site Address: Clinton Keith Road and Wildomar Trail
City : Wildomar
Report Date: 11/24/2021
Gage : Wildomar / North Murrieta
Data Start : 1949/10/01 00:00
Data End : 2011/09/30 00:00
Precip Scale: 1.00
Version Date: 2019/12/01

Low Flow Threshold for POC 1 : 10 Percent of the 2 Year

High Flow Threshold for POC 1: 10 year

PREDEVELOPED LAND USE

Name : DMA 1
Bypass: No

GroundWater: No

Pervious Land Use	acre
A,Shrub,Flat(0-5%)	3
A,Shrub,Mod(5-10%)	.5
A,Shrub,Stee(10-20%)	.5
A,Shrub,Very S(>20%)	.3
Pervious Total	4.3

Impervious Land Use	acre
Impervious Total	0
Basin Total	4.3

Element Flows To:

Surface	Interflow	Groundwater

MITIGATED LAND USE

Name : DMA 1
Bypass: No

GroundWater: No

Pervious Land Use	acre
A,Urban,Stee(10-20%)	.1
A,Urban,Mod(5-10%)	.1
A,Urban,Flat(0-5%)	.19
Pervious Total	0.39

Impervious Land Use	acre
Roof Area	0.8
Driveways,Flat(0-5%)	0.5
Sidewalks,Flat(0-5%)	0.3
Parking,Flat(0-5%)	2.31
Impervious Total	3.91
Basin Total	4.3

Element Flows To:

Surface	Interflow	Groundwater
Vault 1	Vault 1	Vault 1

Name : Vault 1
Width : 43.5 ft.
Length : 80 ft.
Depth: 5.71 ft.

Volume = 19,871 CF

Discharge Structure
Riser Height: 4.5 ft.
Riser Diameter: 18 in.
Orifice 1 Diameter: 2 in. **Elevation:** 4.33333333333333 ft.

Element Flows To:

Outlet 1	Outlet 2

Vault Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.079	0.000	0.000	0.000
0.0634	0.079	0.005	0.000	0.000
0.1269	0.079	0.010	0.000	0.000
0.1903	0.079	0.015	0.000	0.000
0.2538	0.079	0.020	0.000	0.000
0.3172	0.079	0.025	0.000	0.000
0.3807	0.079	0.030	0.000	0.000
0.4441	0.079	0.035	0.000	0.000
0.5076	0.079	0.040	0.000	0.000
0.5710	0.079	0.045	0.000	0.000
0.6344	0.079	0.050	0.000	0.000

0.6979	0.079	0.055	0.000	0.000
0.7613	0.079	0.060	0.000	0.000
0.8248	0.079	0.065	0.000	0.000
0.8882	0.079	0.071	0.000	0.000
0.9517	0.079	0.076	0.000	0.000
1.0151	0.079	0.081	0.000	0.000
1.0786	0.079	0.086	0.000	0.000
1.1420	0.079	0.091	0.000	0.000
1.2054	0.079	0.096	0.000	0.000
1.2689	0.079	0.101	0.000	0.000
1.3323	0.079	0.106	0.000	0.000
1.3958	0.079	0.111	0.000	0.000
1.4592	0.079	0.116	0.000	0.000
1.5227	0.079	0.121	0.000	0.000
1.5861	0.079	0.126	0.000	0.000
1.6496	0.079	0.131	0.000	0.000
1.7130	0.079	0.136	0.000	0.000
1.7764	0.079	0.141	0.000	0.000
1.8399	0.079	0.147	0.000	0.000
1.9033	0.079	0.152	0.000	0.000
1.9668	0.079	0.157	0.000	0.000
2.0302	0.079	0.162	0.000	0.000
2.0937	0.079	0.167	0.000	0.000
2.1571	0.079	0.172	0.000	0.000
2.2206	0.079	0.177	0.000	0.000
2.2840	0.079	0.182	0.000	0.000
2.3474	0.079	0.187	0.000	0.000
2.4109	0.079	0.192	0.000	0.000
2.4743	0.079	0.197	0.000	0.000
2.5378	0.079	0.202	0.000	0.000
2.6012	0.079	0.207	0.000	0.000
2.6647	0.079	0.212	0.000	0.000
2.7281	0.079	0.217	0.000	0.000
2.7916	0.079	0.223	0.000	0.000
2.8550	0.079	0.228	0.000	0.000
2.9184	0.079	0.233	0.000	0.000
2.9819	0.079	0.238	0.000	0.000
3.0453	0.079	0.243	0.000	0.000
3.1088	0.079	0.248	0.000	0.000
3.1722	0.079	0.253	0.000	0.000
3.2357	0.079	0.258	0.000	0.000
3.2991	0.079	0.263	0.000	0.000
3.3626	0.079	0.268	0.000	0.000
3.4260	0.079	0.273	0.000	0.000
3.4894	0.079	0.278	0.000	0.000
3.5529	0.079	0.283	0.000	0.000
3.6163	0.079	0.288	0.000	0.000
3.6798	0.079	0.294	0.000	0.000
3.7432	0.079	0.299	0.000	0.000
3.8067	0.079	0.304	0.000	0.000
3.8701	0.079	0.309	0.000	0.000
3.9336	0.079	0.314	0.000	0.000
3.9970	0.079	0.319	0.000	0.000
4.0604	0.079	0.324	0.000	0.000
4.1239	0.079	0.329	0.000	0.000
4.1873	0.079	0.334	0.000	0.000
4.2508	0.079	0.339	0.000	0.000

4.3142	0.079	0.344	0.000	0.000
4.3777	0.079	0.349	0.022	0.000
4.4411	0.079	0.354	0.035	0.000
4.5046	0.079	0.359	0.049	0.000
4.5680	0.079	0.364	0.334	0.000
4.6314	0.079	0.370	0.814	0.000
4.6949	0.079	0.375	1.417	0.000
4.7583	0.079	0.380	2.101	0.000
4.8218	0.079	0.385	2.826	0.000
4.8852	0.079	0.390	3.549	0.000
4.9487	0.079	0.395	4.231	0.000
5.0121	0.079	0.400	4.835	0.000
5.0756	0.079	0.405	5.334	0.000
5.1390	0.079	0.410	5.719	0.000
5.2024	0.079	0.415	6.003	0.000
5.2659	0.079	0.420	6.306	0.000
5.3293	0.079	0.425	6.562	0.000
5.3928	0.079	0.430	6.807	0.000
5.4562	0.079	0.435	7.044	0.000
5.5197	0.079	0.441	7.274	0.000
5.5831	0.079	0.446	7.496	0.000
5.6466	0.079	0.451	7.712	0.000
5.7100	0.079	0.456	7.922	0.000
5.7734	0.079	0.461	8.127	0.000
5.8369	0.000	0.000	8.327	0.000

ANALYSIS RESULTS

Predeveloped Landuse Totals for POC #1
Total Pervious Area:4.3
Total Impervious Area:0

Mitigated Landuse Totals for POC #1
Total Pervious Area:0.39
Total Impervious Area:3.91

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	Flow(cfs)
2 year	0.115807
5 year	0.310188
10 year	0.403625
25 year	1.533734

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	Flow(cfs)
2 year	0.277961
5 year	0.372031
10 year	0.504872
25 year	0.5626

POC #1
The Facility PASSED

The Facility PASSED.

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0116	1687	1048	62	Pass
0.0155	1533	950	61	Pass
0.0195	1416	887	62	Pass
0.0235	1327	817	61	Pass
0.0274	1254	766	61	Pass
0.0314	1193	721	60	Pass
0.0353	1134	698	61	Pass
0.0393	1083	668	61	Pass
0.0433	1050	647	61	Pass
0.0472	1020	624	61	Pass
0.0512	982	594	60	Pass
0.0551	956	574	60	Pass
0.0591	924	549	59	Pass
0.0631	903	518	57	Pass
0.0670	888	505	56	Pass
0.0710	872	492	56	Pass
0.0749	853	474	55	Pass
0.0789	835	458	54	Pass
0.0829	812	441	54	Pass
0.0868	798	411	51	Pass
0.0908	788	392	49	Pass
0.0947	775	373	48	Pass
0.0987	762	361	47	Pass
0.1027	753	351	46	Pass
0.1066	743	331	44	Pass
0.1106	728	322	44	Pass
0.1145	716	315	43	Pass
0.1185	701	300	42	Pass
0.1225	692	292	42	Pass
0.1264	677	279	41	Pass
0.1304	666	267	40	Pass
0.1343	659	251	38	Pass
0.1383	652	234	35	Pass
0.1423	644	221	34	Pass
0.1462	641	210	32	Pass
0.1502	639	198	30	Pass
0.1541	635	191	30	Pass
0.1581	628	183	29	Pass
0.1621	622	176	28	Pass
0.1660	613	166	27	Pass
0.1700	611	159	26	Pass
0.1739	606	156	25	Pass
0.1779	603	148	24	Pass
0.1819	597	146	24	Pass
0.1858	588	142	24	Pass
0.1898	578	132	22	Pass
0.1937	576	117	20	Pass
0.1977	573	112	19	Pass

0.2017	565	107	18	Pass
0.2056	564	101	17	Pass
0.2096	559	98	17	Pass
0.2135	554	96	17	Pass
0.2175	549	90	16	Pass
0.2215	546	86	15	Pass
0.2254	537	85	15	Pass
0.2294	533	83	15	Pass
0.2333	528	81	15	Pass
0.2373	522	79	15	Pass
0.2413	516	71	13	Pass
0.2452	516	69	13	Pass
0.2492	513	67	13	Pass
0.2531	507	66	13	Pass
0.2571	506	64	12	Pass
0.2611	502	62	12	Pass
0.2650	496	59	11	Pass
0.2690	494	57	11	Pass
0.2729	493	54	10	Pass
0.2769	488	48	9	Pass
0.2809	482	44	9	Pass
0.2848	477	44	9	Pass
0.2888	471	39	8	Pass
0.2927	468	39	8	Pass
0.2967	464	39	8	Pass
0.3007	463	38	8	Pass
0.3046	462	37	8	Pass
0.3086	460	35	7	Pass
0.3125	458	31	6	Pass
0.3165	455	27	5	Pass
0.3205	453	26	5	Pass
0.3244	449	24	5	Pass
0.3284	445	24	5	Pass
0.3323	438	24	5	Pass
0.3363	437	23	5	Pass
0.3403	433	23	5	Pass
0.3442	429	21	4	Pass
0.3482	425	21	4	Pass
0.3521	425	20	4	Pass
0.3561	421	16	3	Pass
0.3601	418	16	3	Pass
0.3640	418	15	3	Pass
0.3680	418	15	3	Pass
0.3719	416	13	3	Pass
0.3759	414	13	3	Pass
0.3799	413	13	3	Pass
0.3838	409	12	2	Pass
0.3878	409	12	2	Pass
0.3917	406	12	2	Pass
0.3957	402	11	2	Pass
0.3997	400	11	2	Pass
0.4036	398	11	2	Pass

BASIN B
(DMA-B1 & B2)

SMRHM
PROJECT REPORT

Project Name: 21994 SMRHM_2
Site Name: Wildomar Trail Mixed-Use Project
Site Address: Clinton Keith Road and Wildomar Trail
City : Wildomar
Report Date: 11/24/2021
Gage : Wildomar / North Murrieta
Data Start : 1949/10/01 00:00
Data End : 2011/09/30 00:00
Precip Scale: 1.00
Version Date: 2019/12/01

Low Flow Threshold for POC 1 : 10 Percent of the 2 Year

High Flow Threshold for POC 1: 10 year

PREDEVELOPED LAND USE

Name : DMA 1
Bypass: No

GroundWater: No

Pervious Land Use	acre
A,Shrub,Flat(0-5%)	2.5
A,Shrub,Mod(5-10%)	.5
A,Shrub,Stee(10-20%)	.33
A,Shrub,Very S(>20%)	.2
Pervious Total	3.53

Impervious Land Use	acre
Roof Area	0.3
Driveways,Flat(0-5%)	0.3
Driveways,Mod(5-10%)	0.3
Impervious Total	0.9
Basin Total	4.43

Element Flows To:
Surface **Interflow** **Groundwater**

MITIGATED LAND USE

Name : DMA 1
Bypass: No

GroundWater: No

Pervious Land Use	acre
A,Urban,Stee(10-20%)	.1
A,Urban,Mod(5-10%)	.1
A,Urban,Flat(0-5%)	.33
Pervious Total	**0.53**

Impervious Land Use	acre
Roof Area	1.2
Driveways,Flat(0-5%)	0.5
Sidewalks,Flat(0-5%)	0.3
Parking,Flat(0-5%)	1.9
Impervious Total	**3.9**
Basin Total	**4.43**

Element Flows To:

Surface	Interflow	Groundwater
Vault 1	Vault 1	Vault 1

Name : Vault 1
Width : 20 ft.
Length : 180 ft.
Depth: 5.71 ft.

Volume = 20,556 cf

Discharge Structure
Riser Height: 4.5 ft.
Riser Diameter: 18 in.
Orifice 1 Diameter: 2 in. **Elevation:** 4.33333333333333 ft.

Element Flows To:

Outlet 1	Outlet 2

Vault Hydraulic Table

Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.082	0.000	0.000	0.000
0.0634	0.082	0.005	0.000	0.000
0.1269	0.082	0.010	0.000	0.000
0.1903	0.082	0.015	0.000	0.000
0.2538	0.082	0.021	0.000	0.000
0.3172	0.082	0.026	0.000	0.000
0.3807	0.082	0.031	0.000	0.000
0.4441	0.082	0.036	0.000	0.000

0.5076	0.082	0.041	0.000	0.000
0.5710	0.082	0.047	0.000	0.000
0.6344	0.082	0.052	0.000	0.000
0.6979	0.082	0.057	0.000	0.000
0.7613	0.082	0.062	0.000	0.000
0.8248	0.082	0.068	0.000	0.000
0.8882	0.082	0.073	0.000	0.000
0.9517	0.082	0.078	0.000	0.000
1.0151	0.082	0.083	0.000	0.000
1.0786	0.082	0.089	0.000	0.000
1.1420	0.082	0.094	0.000	0.000
1.2054	0.082	0.099	0.000	0.000
1.2689	0.082	0.104	0.000	0.000
1.3323	0.082	0.110	0.000	0.000
1.3958	0.082	0.115	0.000	0.000
1.4592	0.082	0.120	0.000	0.000
1.5227	0.082	0.125	0.000	0.000
1.5861	0.082	0.131	0.000	0.000
1.6496	0.082	0.136	0.000	0.000
1.7130	0.082	0.141	0.000	0.000
1.7764	0.082	0.146	0.000	0.000
1.8399	0.082	0.152	0.000	0.000
1.9033	0.082	0.157	0.000	0.000
1.9668	0.082	0.162	0.000	0.000
2.0302	0.082	0.167	0.000	0.000
2.0937	0.082	0.173	0.000	0.000
2.1571	0.082	0.178	0.000	0.000
2.2206	0.082	0.183	0.000	0.000
2.2840	0.082	0.188	0.000	0.000
2.3474	0.082	0.194	0.000	0.000
2.4109	0.082	0.199	0.000	0.000
2.4743	0.082	0.204	0.000	0.000
2.5378	0.082	0.209	0.000	0.000
2.6012	0.082	0.215	0.000	0.000
2.6647	0.082	0.220	0.000	0.000
2.7281	0.082	0.225	0.000	0.000
2.7916	0.082	0.230	0.000	0.000
2.8550	0.082	0.236	0.000	0.000
2.9184	0.082	0.241	0.000	0.000
2.9819	0.082	0.246	0.000	0.000
3.0453	0.082	0.251	0.000	0.000
3.1088	0.082	0.256	0.000	0.000
3.1722	0.082	0.262	0.000	0.000
3.2357	0.082	0.267	0.000	0.000
3.2991	0.082	0.272	0.000	0.000
3.3626	0.082	0.277	0.000	0.000
3.4260	0.082	0.283	0.000	0.000
3.4894	0.082	0.288	0.000	0.000
3.5529	0.082	0.293	0.000	0.000
3.6163	0.082	0.298	0.000	0.000
3.6798	0.082	0.304	0.000	0.000
3.7432	0.082	0.309	0.000	0.000
3.8067	0.082	0.314	0.000	0.000
3.8701	0.082	0.319	0.000	0.000
3.9336	0.082	0.325	0.000	0.000
3.9970	0.082	0.330	0.000	0.000
4.0604	0.082	0.335	0.000	0.000

4.1239	0.082	0.340	0.000	0.000
4.1873	0.082	0.346	0.000	0.000
4.2508	0.082	0.351	0.000	0.000
4.3142	0.082	0.356	0.000	0.000
4.3777	0.082	0.361	0.022	0.000
4.4411	0.082	0.367	0.035	0.000
4.5046	0.082	0.372	0.049	0.000
4.5680	0.082	0.377	0.334	0.000
4.6314	0.082	0.382	0.814	0.000
4.6949	0.082	0.388	1.417	0.000
4.7583	0.082	0.393	2.101	0.000
4.8218	0.082	0.398	2.826	0.000
4.8852	0.082	0.403	3.549	0.000
4.9487	0.082	0.409	4.231	0.000
5.0121	0.082	0.414	4.835	0.000
5.0756	0.082	0.419	5.334	0.000
5.1390	0.082	0.424	5.719	0.000
5.2024	0.082	0.430	6.003	0.000
5.2659	0.082	0.435	6.306	0.000
5.3293	0.082	0.440	6.562	0.000
5.3928	0.082	0.445	6.807	0.000
5.4562	0.082	0.450	7.044	0.000
5.5197	0.082	0.456	7.274	0.000
5.5831	0.082	0.461	7.496	0.000
5.6466	0.082	0.466	7.712	0.000
5.7100	0.082	0.471	7.922	0.000
5.7734	0.082	0.477	8.127	0.000
5.8369	0.000	0.000	8.327	0.000

ANALYSIS RESULTS

Predeveloped Landuse Totals for POC #1
Total Pervious Area:3.53
Total Impervious Area:0.9

Mitigated Landuse Totals for POC #1
Total Pervious Area:0.53
Total Impervious Area:3.9

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.770963
5 year	1.002289
10 year	1.149444
25 year	2.32815

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	0.277467
5 year	0.373211

10 year 0.503447
25 year 0.562455

POC #1
The Facility PASSED

The Facility PASSED.

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0771	7609	0	0	Pass
0.0879	7223	0	0	Pass
0.0988	6853	0	0	Pass
0.1096	6554	0	0	Pass
0.1204	6250	0	0	Pass
0.1313	5967	0	0	Pass
0.1421	5685	0	0	Pass
0.1529	5415	0	0	Pass
0.1638	5195	0	0	Pass
0.1746	4986	0	0	Pass
0.1854	4810	0	0	Pass
0.1962	4653	0	0	Pass
0.2071	4490	0	0	Pass
0.2179	4337	0	0	Pass
0.2287	4190	0	0	Pass
0.2396	4040	0	0	Pass
0.2504	3892	0	0	Pass
0.2612	3748	0	0	Pass
0.2721	3612	0	0	Pass
0.2829	3455	0	0	Pass
0.2937	3316	0	0	Pass
0.3046	3168	0	0	Pass
0.3154	3014	0	0	Pass
0.3262	2871	0	0	Pass
0.3371	2704	0	0	Pass
0.3479	2561	0	0	Pass
0.3587	2398	0	0	Pass
0.3696	2239	0	0	Pass
0.3804	2131	0	0	Pass
0.3912	2020	0	0	Pass
0.4021	1915	0	0	Pass
0.4129	1840	0	0	Pass
0.4237	1748	0	0	Pass
0.4345	1685	0	0	Pass
0.4454	1615	0	0	Pass
0.4562	1551	0	0	Pass
0.4670	1491	0	0	Pass
0.4779	1446	0	0	Pass
0.4887	1391	0	0	Pass
0.4995	1329	0	0	Pass
0.5104	1284	0	0	Pass
0.5212	1242	0	0	Pass
0.5320	1203	0	0	Pass
0.5429	1172	0	0	Pass
0.5537	1149	0	0	Pass

0.5645	1107	0	0	Pass
0.5754	1070	0	0	Pass
0.5862	1027	0	0	Pass
0.5970	1000	0	0	Pass
0.6079	979	0	0	Pass
0.6187	951	0	0	Pass
0.6295	917	0	0	Pass
0.6403	884	0	0	Pass
0.6512	857	0	0	Pass
0.6620	826	0	0	Pass
0.6728	797	0	0	Pass
0.6837	772	0	0	Pass
0.6945	744	0	0	Pass
0.7053	715	0	0	Pass
0.7162	691	0	0	Pass
0.7270	671	0	0	Pass
0.7378	651	0	0	Pass
0.7487	623	0	0	Pass
0.7595	607	0	0	Pass
0.7703	590	0	0	Pass
0.7812	577	0	0	Pass
0.7920	566	0	0	Pass
0.8028	540	0	0	Pass
0.8137	520	0	0	Pass
0.8245	505	0	0	Pass
0.8353	494	0	0	Pass
0.8462	485	0	0	Pass
0.8570	469	0	0	Pass
0.8678	461	0	0	Pass
0.8786	442	0	0	Pass
0.8895	433	0	0	Pass
0.9003	418	0	0	Pass
0.9111	400	0	0	Pass
0.9220	388	0	0	Pass
0.9328	376	0	0	Pass
0.9436	371	0	0	Pass
0.9545	363	0	0	Pass
0.9653	356	0	0	Pass
0.9761	351	0	0	Pass
0.9870	341	0	0	Pass
0.9978	333	0	0	Pass
1.0086	321	0	0	Pass
1.0195	311	0	0	Pass
1.0303	299	0	0	Pass
1.0411	294	0	0	Pass
1.0520	288	0	0	Pass
1.0628	281	0	0	Pass
1.0736	265	0	0	Pass
1.0845	260	0	0	Pass
1.0953	250	0	0	Pass
1.1061	243	0	0	Pass
1.1169	237	0	0	Pass
1.1278	233	0	0	Pass
1.1386	225	0	0	Pass
1.1494	219	0	0	Pass

BASIN SIZING CALCULATIONS

BMP Sizing Calculation

PROJECT: 21-994 Wildomar Trail
BMP Location: BMP-A

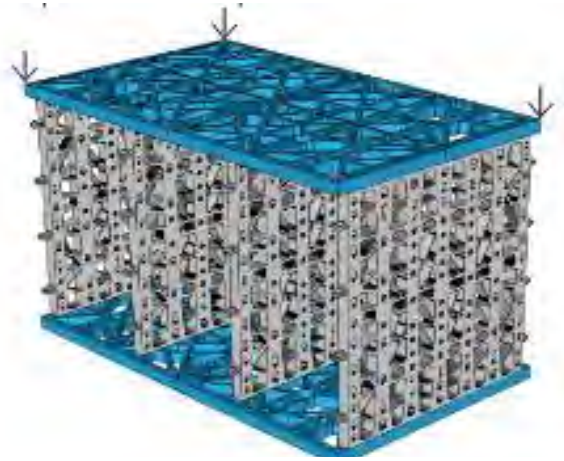
Basin Sizing Calculations :

Calculated DCV: 19871 cf

U.G. Product	Dimension	97% Water	Number of	FootPrint	Total Vol. Provided
Eco-Tank		**Storage Volume (cf) ***	**Units**	**(sf)**	**(cf)**
ET - 1504 QUAD	1.34' W x 2.25' L x 5.71' depth	16.7	1150	3,500	**19,205**
12" Gravel Section Below Eco-Tank (n=0.40)	N/A (V = FootPrint x n x Gravel Thickness)				**700**
				Total:	**19,905**

* Based on manufacturer's cutsheet
Footprint = Gravel Infiltration Area Below Tank Bottom. See LID Plan for size.
Total Volume Provided = 97% Water Storage Volume x # of Units

Capacity Check: **Sufficent**



BMP Sizing Calculation

PROJECT: 21-994 Wildomar Trail
BMP Location: BMP-B

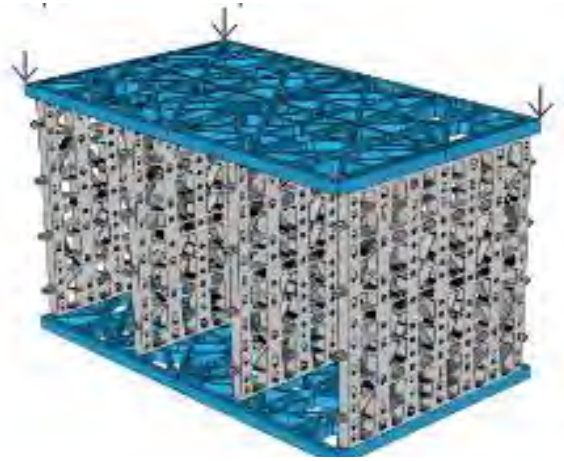
Basin Sizing Calculations :

Calculated DCV: 20556 cf

U.G. Product	Dimension	97% Water	Number of	FootPrint	Total Vol. Provided
Eco-Tank		**Storage Volume (cf) ***	**Units**	**(sf)**	**(cf)**
ET - 1504 QUAD	1.34' W x 2.25' L x 5.71' depth	16.7	1200	3,400	**20,040**
12" Gravel Section Below Eco-Tank (n=0.40)	N/A (V = FootPrint x n x Gravel Thickness)				**680**
				Total:	**20,720**

* Based on manufacturer's cutsheet
Footprint = Gravel Infiltration Area Below Tank Bottom. See LID Plan for size.
Total Volume Provided = 97% Water Storage Volume x # of Units

Capacity Check: **Sufficent**



ECO-RAIN TANK SYSTEMS DIMENSIONS CHART

VEHICULAR AREAS - 5 SMALL PLATES PER UNIT

Tank Units	Size in Feet	Size in Inches	Size in Millimeters
ET-1500 Half	1.34' w x 2.23' l x .8' depth	16.06" w x 26.76" l x 9.60" d	408.4mm x 680mm x 241.3mm d
ET-1501 Single	1.34' w x 2.23' l x 1.45' depth	16.06" w x 26.76" l x 17.40" d	408.4mm x 680mm x 442.0mm d
ET-1501.5 Single + ½	1.34' w x 2.23' l x 2.19' depth	16.06" w x 26.76" l x 26.28" d	408.4mm x 680mm x 667.5mm d
ET-1502 Double	1.34' w x 2.23' l x 2.84' depth	16.06" w x 26.76" l x 34.08" d	408.4mm x 680mm x 865.6mm d
ET-1502.5 Double + ½	1.34' w x 2.23' l x 3.58' depth	16.06" w x 26.76" l x 42.96" d	408.4mm x 680mm x 1,092.2mm d
ET-1503 Triple	1.34' w x 2.23' l x 4.23' depth	16.06" w x 26.76" l x 50.76" d	408.4mm x 680mm x 1,295.4mm d
ET-1503.5 Triple + ½	1.34' w x 2.23' l x 4.96' depth	16.06" w x 26.76" l x 59.61" d	408.4mm x 680mm x 1,511.8mm d
ET-1504 Quad	1.34' w x 2.23' l x 5.61' depth	16.06" w x 26.76" l x 67.32" d	408.4mm x 680mm x 1,709.9mm d
ET-1504.5 Quad + ½	1.34' w x 2.23' l x 6.35' depth	16.06" w x 26.76" l x 76.20" d	408.4mm x 680mm x 1,935.5mm d
ET-1505 Pent	1.34' w x 2.23' l x 7.00' depth	16.06" w x 26.76" l x 84.00" d	408.4mm x 680mm x 2,133.6mm d

Tank Unit	Outer Dimension Cubic Ft	Outer Dimension Cubic Mt	97% Water Storage Cubic Ft	97% Water Storage Gallons	97% Water Storage Cubic Mt	ET-1506 Large Plates	ET-1507 Small Plates	ET-1508 Large Half Plates	ET-1509 Small Half Plates	Tank Unit
ET-1500 Half	2.39	.067	2.31	17.28	.065	2	-	2	5	**1500**
ET-1501 Single	4.33	.122	4.20	31.41	.118	4	5	-	-	**1501**
ET-1501.5	6.54	.185	6.34	47.42	.179	5	5	2	5	**1501.5**
ET-1502 Double	8.48	.240	8.22	63.21	.232	7	10	-	-	**1502**
ET-1502.5	10.69	.302	10.37	77.57	.293	8	10	2	5	**1502.5**
ET-1503 Triple	12.64	.357	12.26	91.71	.347	10	15	-	-	**1503**
ET-1503.5	14.82	.419	14.37	107.49	.406	11	15	2	5	**1503.5**
ET-1504 Quad	16.76	.474	16.26	121.63	.460	13	20	-	-	**1504**
ET-1504.5	18.97	.537	18.40	137.64	.521	14	20	2	5	**1504.5**
ET-1505 Pent	20.91	.592	20.28	151.70	.574	16	25	-	-	**1505**

ET-1506 Large Plate: 26 ¾" x 16 1/8" /ET-1507 Small Plate: 14 ¼" x 15 ¾" /ET-1508 Large Half Plate: 26 ¾" x 8" /ET-1509 Small Half Plate: 14 ¼" x 8" /Plate Depth: ¾ "

ET-1301 EcoRain 1" Drainage Cell - 1" x 19.70" x 23.6" (25 x 500 x 600mm) = 3.23 square feet .27 cu ft/.22 cu ft void at 80%
ET-1401 EcoRain 2" Drainage Cell - 2" x 11.75" x 19.4" (50 x 299 x 492mm) = 1.59 square feet .28 cu ft/.24 cu ft void at 87.6%

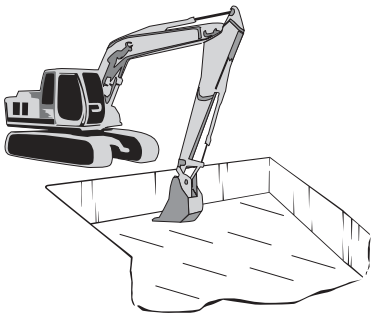
Conversions

1 cubic foot = 7.4805195 gallons
1 liter = 0.2641721 gallon
1 millimeter = 0.0393701 inch
1 cubic meter = 35.31 cubic feet = 264.2 gallons = .0008107 acre feet
1 meter = 3.28084 feet
1 square meter = 10.7639104 square feet

04/02/21

ECO-RAIN DETENTION & EXFILTRATION TANK INSTALLATION GUIDE*

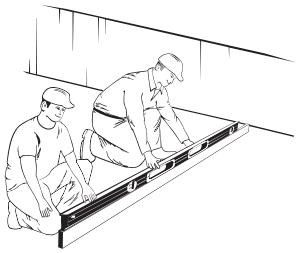
Step 1
Excavate Trench Larger than Specified Tank Size, per Engineered Detail



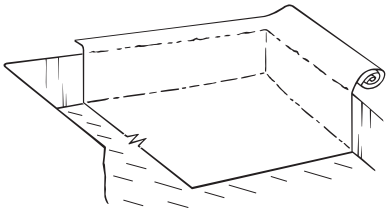
Step 2
Compact Base to 35 psi



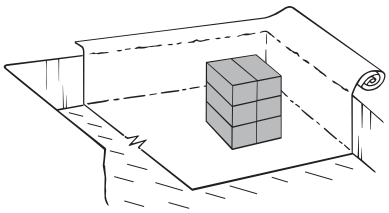
Step 3
Add **Sand** or Free Drainage Material* to Base, Compact and Level with a Straight Edge



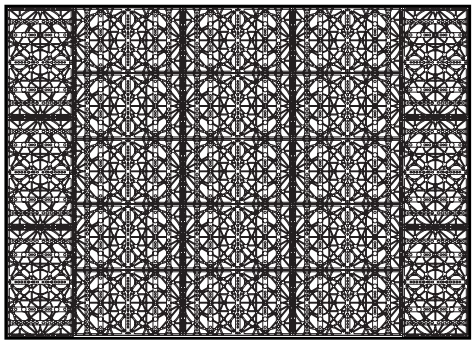
Step 4
Lay Geotextile Material in Bottom and on Sides of Trench, Enough to Fully Wrap Tank, with 12″ Seam Overlaps



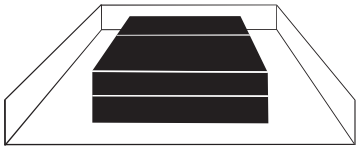
Step 5
Install Tanks upright for Maximum Strength and per the Warranty:
Half Tank - .79′ High
Single Tank - 1.48′ High



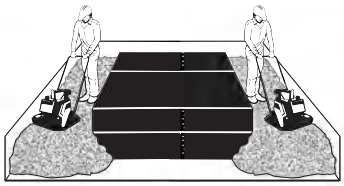
Step 6
Orient Tanks Lengthwise along Perimeter



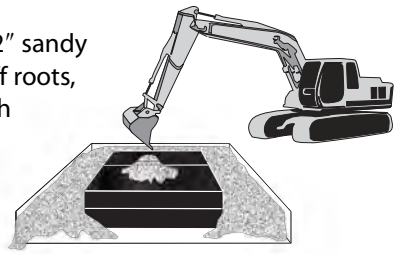
Step 7
Cover Eco-Rain Tanks with Geotextile Material - Wrap Tight, Cut Away Excess Folds, Overlap and/or Seal Joints with Tape



Step 8
Backfill Sides with Sandy Fill in maximum 12″ Layers - Compacting Each Layer at least 95%

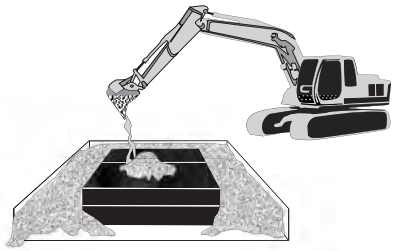


Step 9
Backfill over Top with 12″ sandy backfill free of rocks, stiff roots, or debris - Compact with Lightweight Equipment



Correct

Do Not Drop Fill from High Up



Incorrect

Step 10
Finish Backfill per Engineered Detail

Minimum 12″ Top Cover for Pedestrian Use

Minimum 24″ Top Cover for Vehicle Use – Layer Biaxial Geogrid 12″ Above Eco-Rain Tanks & Extending 3′ beyond Edges of Eco-Rain Tank or as per Engineer Detail.

*Email contact@ecoraintank.com to request full specifications and submittal installation instructions

FOR USA AND CANADA
Telephone: 818 501 0424
Fax: 818 501 0713
Eco-Rain Systems of America Inc.
12400 Ventura Blvd #167
Studio City, CA 91604
contact@ecoraintank.com
www.ecoraintank.com

ECO-RAIN OF AMERICA ™

Disclaimer: All information provided in this publication is correct to the best knowledge of the company and is given out in good faith. This information is intended only as a general guide, no responsibility can be accepted for any errors, omissions or incorrect assumptions. As each project is unique and as Eco-Rain Tank Systems and its distributors and agents worldwide have no direct control over the methods employed by the user in specifying, installing or supervising of its products hence no responsibility is accepted by Eco-Rain Tank Systems and its distributors and agents worldwide. Users should satisfy themselves as to the sustainability of the product for their purpose.

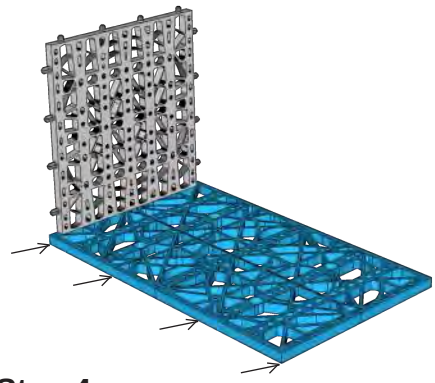
Eco-Rain Tank Systems

Assembly of Single and Multiple Eco-Rain Tanks

Single Tank Assembly

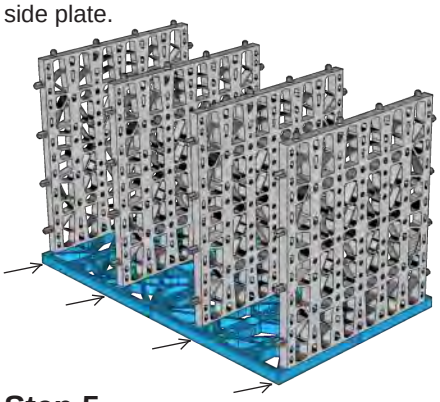
Step 1

Install large pegs of one small plate into holes of one side plate.



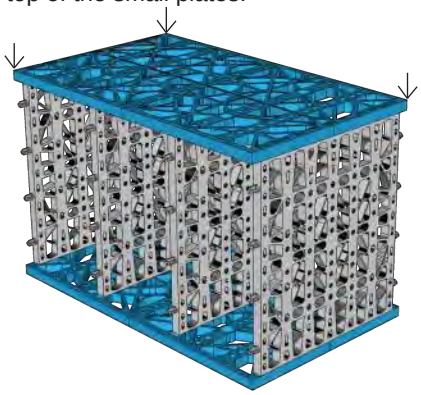
Step 2

Install large pegs of the second, third, and end small plates into holes of the side plate.



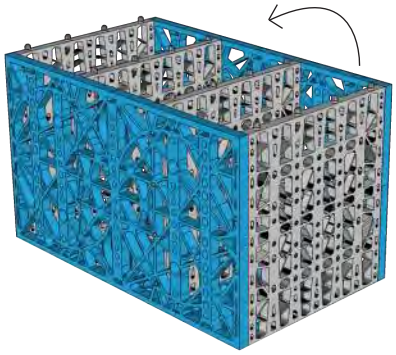
Step 3

Place and align the second side plate on top of the small plates.



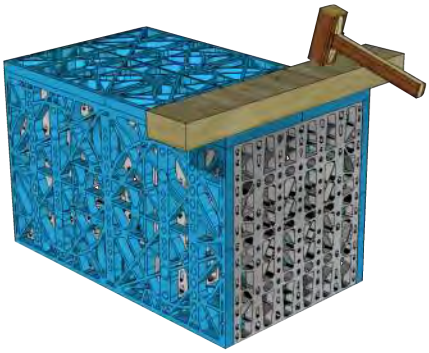
Step 4

Rotate the tank such that the side plates are now on the sides and the top and bottom are open.



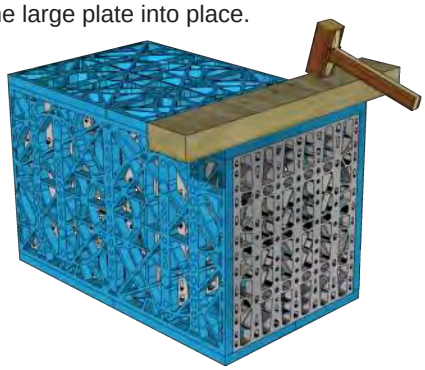
Step 5

Place and align a large plate with the pegs of the vertical small plates. Use a 2x4 and a dead weight hammer to tap the large plate into place.



Step 6

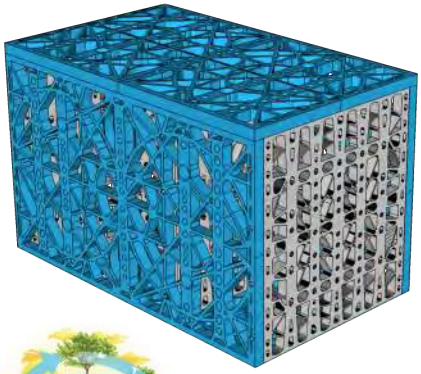
Turn the tank upside down. Place and align the second large plate with the pegs of the vertical small plates. Use a 2x4 and a dead weight hammer to tap the large plate into place.



Multiple Tank Assembly

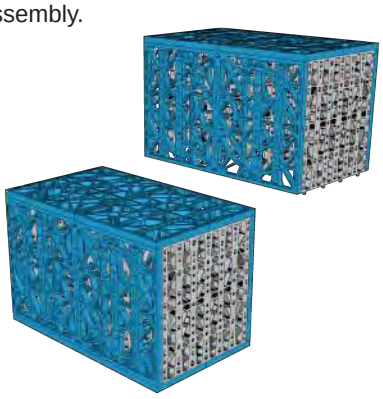
Step 1

Repeat Steps 1 through 5 for Multiple Tank Assembly.



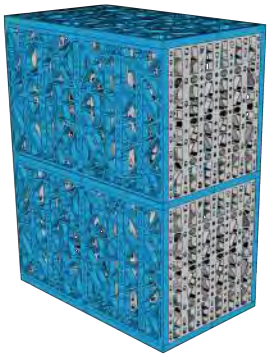
Step 2

Turn the tank upside down. Align the tank (with one open end) over a complete tank for Double Tank Assembly.



Step 3

Use Multiple Tank Assembly Steps 1 and 2 for Triple, Quad and Pent Tank Assemblies. Check for full pin insertion and re-tap if necessary.



Disclaimer: All information provided in this publication is correct to the best knowledge of the company and is given out in good faith. This information is intended only as a general guide, no responsibility can be accepted for any errors, omissions or incorrect assumptions. As each project is unique and as Eco-Rain Tank Systems and its distributors and agents worldwide have no direct control over the methods employed by the user in specifying, installing or supervising of its products hence no responsibility is accepted by Eco-Rain Tank Systems and its distributors and agents worldwide. Users should satisfy themselves as to the sustainability of the product for their purpose.

Eco-Rain Tank ***Products & Systems are world-wide patent pending & design registered.***

818.501.0424 tel | 818.501.0713 fax | www.ecoraintank.c

Appendix 8: Source Control

Pollutant Sources/Source Control Checklist

1 Potential Sources of Runoff Pollutants	2 Permanent Controls— **Shown on** WQMP Drawings	3 Permanent Controls– **Listed in WQMP** Table and Narrative	4 Operational BMPs— **Included in WQMP** Table and Narrative
☑ A. **On-site storm drain inlets**	☑ **Locations of inlets.**	☑ **Mark all inlets with the words "Only Rain Down the Storm Drain" or similar. Catch Basin Markers may be available from the Riverside County Flood Control and Water Conservation District, call 951.955.1200 to verify.**	☑ **Maintain and periodically repaint or replace inlet markings.** ☑ **Provide stormwater pollution prevention information to new site owners, lessees, or operators.** ☑ **See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com** ☑ **Include the following in lease agreements: "Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."**
☑ B. **Interior floor drains and elevator shaft sump pumps**		☑ **State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.**	☑ **Inspect and maintain drains to prevent blockages and overflow.**
☐ C. **Interior parking garages**		☐ **State that parking garage floor drains will be plumbed to the sanitary sewer.**	☐ **Inspect and maintain drains to prevent blockages and overflow.**

STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls**— Shown on **WQMP Drawings**	3 **Permanent Controls**– Listed in WQMP **Table and Narrative**	4 **Operational BMPs**— Included in WQMP **Table and Narrative**
☐ **D1.** Need for future indoor & structural pest control		☐ Note building design features that discourage entry of pests.	☐ Provide Integrated Pest Management information to owners, lessees, and operators.
✓ **D2.** Landscape/ Outdoor Pesticide Use	✓ Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained. ✓ Show self-retaining landscape areas, if any. ✓ Show stormwater treatment and hydrograph modification management BMPs. (See instructions in Chapter 3, Step 5 and guidance in Chapter 5.)	State that final landscape plans will accomplish all of the following. ✓ Preserve existing native trees, shrubs, and ground cover to the maximum extent possible. ✓ Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. ✓ Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. ✓ Consider using pest-resistant plants, especially adjacent to hardscape. ✓ To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	✓ Maintain landscaping using minimum or no pesticides. ✓ See applicable operational BMPs in "What you should know for…..Landscape and Gardening" at http://rcflood.org/stormwater/downloads/landscapegardenbrochure.pdf ✓ Provide IPM information to new owners, lessees and operators.

1 Potential Sources of Runoff Pollutants	2 Permanent Controls— **Shown on** WQMP Drawings	3 Permanent Controls– **Listed in WQMP** Table and Narrative	4 Operational BMPs— **Included in WQMP** Table and Narrative
❑ E. **Pools, spas, ponds, decorative fountains, and other water features.**	❑ **Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet. (Exception: Public pools must be plumbed according to County Department of Environmental Health Guidelines.)**	**If the Co-Permittee requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.**	❑ **See applicable operational BMPs in** "Guidelines for Maintaining Your Swimming Pool, Jacuzzi and Garden Fountain" at http://rcflood.org/stormwater/
❑ F. **Food service**	❑ **For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment.** ❑ **On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.**	❑ **Describe the location and features of the designated cleaning area.** ❑ **Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.**	❑ **See the brochure, "**The Food Service Industry Best Management Practices for: Restaurants, Grocery Stores, Delicatessens and Bakeries" at http://rcflood.org/stormwater/ **Provide this brochure to new site owners, lessees, and operators.**
 G. **Refuse areas**	 **Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas.** ❑ **If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area.** ❑ **Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.**	❑ **State how site refuse will be handled and provide supporting detail to what is shown on plans.** ❑ **State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar.**	 **State how the following will be implemented:** **Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

1 Potential Sources of Runoff Pollutants	2 Permanent Controls— **Shown on** WQMP Drawings	3 Permanent Controls– **Listed in WQMP** Table and Narrative	4 Operational BMPs— **Included in WQMP** Table and Narrative
❑ H. **Industrial processes.**	❑ **Show process area.** All processing areas are indoor.	❑ **If industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain system."**	❑ **See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com** See the brochure "Industrial & Commercial Facilities Best Management Practices for: Industrial, Commercial Facilities" at http://rcflood.org/stormwater/

1 Potential Sources of Runoff Pollutants	2 Permanent Controls— **Shown on** WQMP Drawings	3 Permanent Controls– **Listed in WQMP** Table and Narrative	4 Operational BMPs— **Included in WQMP** Table and Narrative
❑ I. **Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)**	❑ **Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area.** ❑ **Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults.** ❑ **Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.**	**Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains.** **Where appropriate, reference documentation of compliance with the requirements of Hazardous Materials Programs for:** ▪ **Hazardous Waste Generation** ▪ **Hazardous Materials Release Response and Inventory** ▪ **California Accidental Release (CalARP)** ▪ **Aboveground Storage Tank** ▪ **Uniform Fire Code Article 80 Section 103(b) & (c) 1991** ▪ **Underground Storage Tank** www.cchealth.org/groups.hazmat/	❑ **See the Fact Sheets SC-31, "Outdoor Liquid Container Storage" and SC-33, "Outdoor Storage of Raw Materials " in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

1 Potential Sources of Runoff Pollutants	2 Permanent Controls— **Shown on** WQMP Drawings	3 Permanent Controls– **Listed in WQMP** Table and Narrative	4 Operational BMPs— **Included in WQMP** Table and Narrative
❑ J. **Vehicle and Equipment Cleaning**	❑ **Show on drawings as appropriate:** **(1) Commercial/industrial facilities having vehicle/equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses.** **(2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use).** **(3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer.** **(4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.**	❑ **If a car wash area is not provided, describe any measures taken to discourage on-site car washing and explain how these will be enforced.**	**Describe operational measures to implement the following (if applicable):** ❑ **Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system.** Refer to "Outdoor Cleaning Activities and Professional Mobile Service Providers" for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/ ❑**Car dealerships and similar may rinse cars with water only.**

1 Potential Sources of Runoff Pollutants	2 Permanent Controls— **Shown on** WQMP Drawings	3 Permanent Controls– **Listed in WQMP** Table and Narrative	4 Operational BMPs— **Included in WQMP** Table and Narrative
❑ K. **Vehicle/Equipment Repair and Maintenance**	❑ **Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater.** ❑ **Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.** ❑ **Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.**	❑ **State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area.** ❑ **State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.** ❑ **State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.**	**In the Stormwater Control Plan, note that all of the following restrictions apply to use the site:** ❑ **No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains.** ❑ **No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.** ❑ **No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.** Refer to "Automotive Maintenance & Car Care Best Management Practices for Auto Body Shops, Auto Repair Shops, Car Dealerships, Gas Stations and Fleet Service Operations". Brochure can be found at http://rcflood.org/stormwater/ Refer to Outdoor Cleaning Activities and Professional Mobile Service Providers for many of the Potential Sources of Runoff Pollutants categories below. Brochure can be found at http://rcflood.org/stormwater/

1 Potential Sources of Runoff Pollutants	2 Permanent Controls— **Shown on** WQMP Drawings	3 Permanent Controls– **Listed in WQMP** Table and Narrative	4 Operational BMPs— **Included in WQMP** Table and Narrative
❑ L. **Fuel Dispensing Areas**	❑ **Fueling areas[6] shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable.** ❑ **Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area[1].] The canopy [or cover] shall not drain onto the fueling area.**		❑ **The property owner shall dry sweep the fueling area routinely.** ❑ **See the Fact Sheet SD-30 , "Fueling Areas" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

[6] **The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.**

1 Potential Sources of Runoff Pollutants	2 Permanent Controls— **Shown on** WQMP Drawings	3 Permanent Controls– **Listed in WQMP** Table and Narrative	4 Operational BMPs— **Included in WQMP** Table and Narrative
❑ M. **Loading Docks**	❑ **Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas shall be drained to the sanitary sewer, or diverted and collected for ultimate discharge to the sanitary sewer.** ❑ **Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation.** ❑ **Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.**		❑ **Move loaded and unloaded items indoors as soon as possible.** ❑ **See Fact Sheet SC-30, "Outdoor Loading and Unloading," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com**

STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

1 **Potential Sources of Runoff Pollutants**	2 **Permanent Controls**— Shown on **WQMP Drawings**	3 **Permanent Controls**– Listed in WQMP **Table and Narrative**	4 **Operational BMPs**– Included in WQMP **Table and Narrative**
☑ **N.** Fire Sprinkler Test Water		☑ Provide a means to drain fire sprinkler test water to the sanitary sewer.	☑ See the note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com
O. Miscellaneous Drain or Wash Water or Other Sources ☐ Boiler drain lines ☑ Condensate drain lines ☑ Rooftop equipment ☐ Drainage sumps ☑ Roofing, gutters, and trim. ☐ Other sources		☐ Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. ☑ Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. ☑ Rooftop equipment with potential to produce pollutants shall be roofed and/or have secondary containment. ☐ Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water. ☑ Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff. ☐ Include controls for other sources as specified by local reviewer.	

1 Potential Sources of Runoff Pollutants	2 Permanent Controls— **Shown on** WQMP Drawings	3 Permanent Controls– **Listed in WQMP** Table and Narrative	4 Operational BMPs— **Included in WQMP** Table and Narrative
 P. **Plazas, sidewalks, and parking lots.**			 **Sweep plazas, sidewalks, and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect washwater containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.**

Appendix 9: O&M

Operation and Maintenance Plan and Documentation of Finance, Maintenance and Recording Mechanism

TO BE PROVIDED IN FINAL ENGINEERING

Appendix 10: Educational Materials

BMP Fact Sheets, Maintenance Guidelines and Other End-User BMP Information

LANDSCAPE MAINTENANCE

DISCHARGE TO THE STORM DRAIN, ACCIDENTAL OR NOT, COULD LEAD TO ENFORCEMENT ACTIONS, WHICH COULD INCLUDE FINES.

Follow the best practices below to **prevent water pollution from landscaping activities.**

RECYCLE YARD WASTE



- Recycle leaves, grass clippings and other yard waste.
- Do not blow, sweep, rake or hose yard waste into the street or catch basin.
- **Try grasscycling:** the natural recycling of grass by leaving clippings on the lawn when mowing.

  For more information, please visit: **www.calrecycle.ca.gov/organics/grasscycling**

USE FERTILIZERS, HERBICIDES AND PESTICIDES SAFELY



- Fertilizers, herbicides and pesticides are often carried into the storm drain system by sprinkler runoff. Use natural and non-toxic alternatives as often as possible.
- If you must use chemical fertilizers, herbicides or pesticides:
  - Spot apply, rather than blanketing entire areas.
  - Avoid applying near curbs and driveways, and **never** before a rain.
  - Apply fertilizers as needed: when plants could best use it and when the potential runoff would be low.
  - Follow the manufacturer's instructions carefully—this will not only give the best results, but will save money.

USE WATER WISELY



- Control the amount of water and direction of sprinklers. Sprinklers should only be on long enough to allow water to soak into the ground, but not so long as to cause runoff.
- Periodically inspect, fix leaks and realign sprinkler heads.
- Plant native vegetation to reduce the need of water, fertilizers, herbicides and pesticides.

HOMEOWNERS

KEEP THESE TIPS IN MIND WHEN HIRING PROFESSIONAL LANDSCAPERS AND REMIND AS NECESSARY.



Leftover pesticides, fertilizers, and herbicides contaminate landfills and should be disposed of through a Hazardous Waste Facility.

For more information on proper disposal call,

(909) 382-5401 or 1-800-OILY CAT.

*FREE for San Bernardino County residents only. Businesses can call for cost inquiries and to schedule an appointment.

To report illegal dumping, call (877) WASTE18 or visit sbcountystormwater.org
To report toxic spills, call 1(800) 33 TOXIC
To dispose of hazardous waste, call 1(800) OILY CAT

sbcountystormwater.org

Big Bear • Chino • Chino Hills • Colton • Fontana • Grand Terrace • Highland • Loma Linda • Montclair • Ontario • Rancho Cucamonga • Redlands • Rialto • San Bernardino • San Bernardino County • San Bernardino County Flood Control District • Upland • Yucaipa



WASH YOUR CAR THE ECO-FRIENDLY WAY!

When possible, wash in a professional car wash.

1. **Locate** the nearest storm drain and ensure that wash water does not flow into it.



2. **Wash** in a contained area or on grass*, gravel or other permeable surface. Dispose of excess soapy water into the sanitary sewer *(ie. sink or toilet)* or onto grass.

3. **Use** eco-friendly cleaning products (*non-toxic, phosphate free or biodegradable*). Use as little soap as possible and wipe brake dust off tires with a rag before washing.

4. **Conserve** water by using a high pressure hose and turn off the water when not in use.

**Some local ordinances may not allow a car to be parked on the front lawn. Check with your City's Building and Code department if you are unsure.*

How Does Eco Car Washing Help Local Waterways?

When excess wash water travels through the street it has the potential to pick up oil, grease and other chemicals along the way before it ends up in the curb, gutter and the storm drain system. **This contaminated water then travels to our creeks and the Santa Ana River making it unsafe for people and wildlife.**

To report illegal dumping, call **(877) WASTE18** or visit **sbcountystormwater.org**
To find a Hazardous Waste Facility, call **(800) OILY CAT**

Big Bear • Chino • Chino Hills • Colton • Fontana • Grand Terrace • Highland • Loma Linda • Montclair • Ontario • Rancho Cucamonga
Redlands • Rialto • San Bernardino • San Bernardino County • San Bernardino County Flood Control District • Upland • Yucaipa

Printed on 55% Recycled, 30% Post Consumer Waste Paper

STORMWATER Pollution Prevention

PAINTING

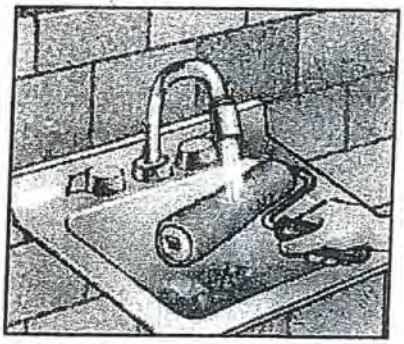
Paints, solvents, adhesives and other toxic chemicals used in painting often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these simple tips to prevent pollution and protect our health.



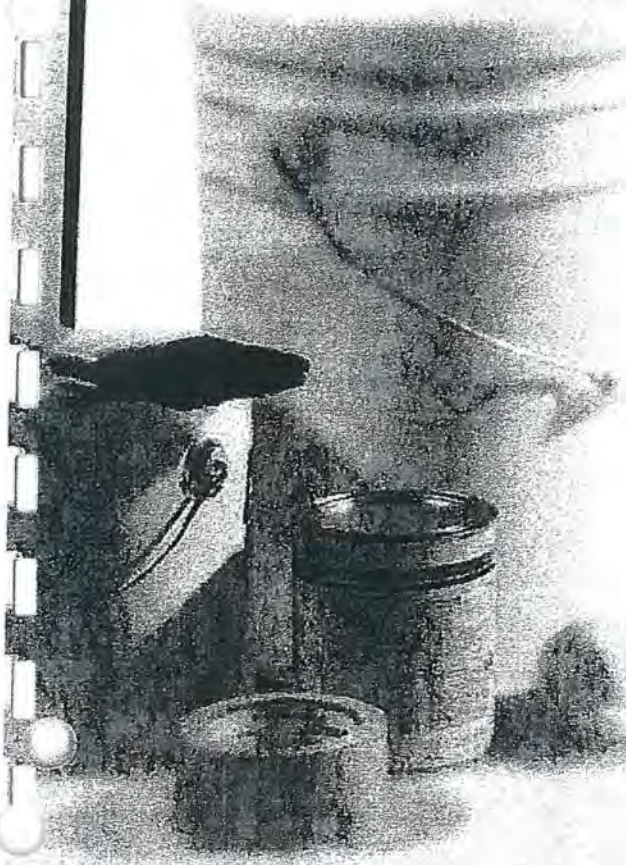
Water-Based Paints
Use water-based paints whenever possible. They are less toxic than oil-based paints and easier to clean up. Look for products labeled "latex" or "cleans with water."



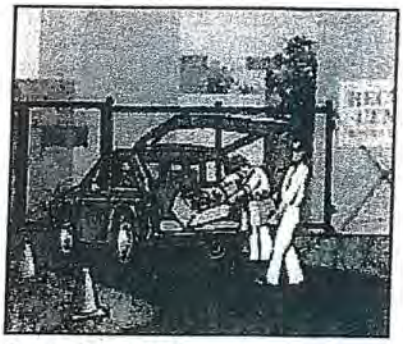
Paint Removal
Sweep up paint stripping residue, chips and dust instead of hosing into the street and dispose of them safely at a household hazardous waste collection facility. Call (800) CLEANUP for the facility in your area.



Painting Cleanup
Never clean brushes or rinse paint containers in the street, gutter or near a storm drain. Clean water-based paints in the sink. Clean oil-based paints with thinner, which can be reused by putting it in a jar to settle out the paint particles and then pouring off the clear liquid for future use. Wrap dried paint residue in newspaper and dispose of it in the trash.



Exterior Paint Removal
When stripping or cleaning building exteriors with high-pressure water, block nearby storm drains and divert washwater onto a designated dirt area. Ask your local wastewater treatment authority if you can collect building cleaning water and discharge it to the sewer.



Recycling Paint
Recycle leftover paint at a household hazardous waste collection facility, save it for touch ups or give it to someone who can use it, like a theatre group, school, city or community organization.

To report illegal dumping or for more information on stormwater pollution prevention, call:

1 (800) CLEANUP

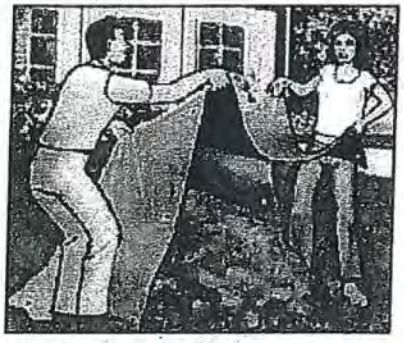
www.1800cleanup.org

San Bernardino County STORMWATER PROGRAM

STORMWATER Pollution Prevention

HOME REPAIR & REMODELING

Paints, solvents, adhesives and other toxic substances used in home repair and remodeling often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these simple tips to prevent pollution and protect your health.



Construction Projects

Keep construction debris away from the street, gutter and storm drains. Schedule grading and excavation projects for dry weather. Cover excavated material and stockpiles of soil, sand or gravel, protected from rain, wind and runoff. Prevent erosion by planting fast-growing annual and perennial grass, which can shield and bind soil.

Recycle Household Hazardous Waste

Household cleaners, paint and other home improvement products like wallpaper and tile adhesives are too toxic to trash. Recycle them instead, at a convenient household hazardous waste collection facility. Call (800) CLEANUP for the facility in your area.

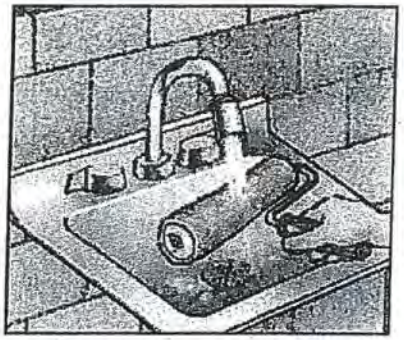


Landscaping & Gardening

Avoid applying fertilizers or pesticide near curbs and driveways, and store covered, protected from rain, wind and runoff. Try using organic or non-toxic alternatives. Reduce runoff and lower your water bill by using drip irrigation, soaker hoses or micro-spray systems. Recycle leaves instead of blowing, sweeping or raking them into the street, gutter or storm drain.

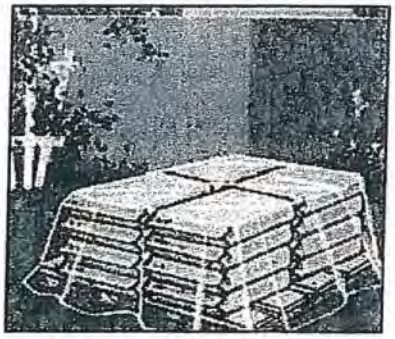
Paint Removal

Paint stripping residue, chips and dust from marine paints and paints containing lead or tributyl tin are hazardous wastes. Sweep them up instead of hosing into the street and dispose of them safely at a household hazardous waste collection facility.



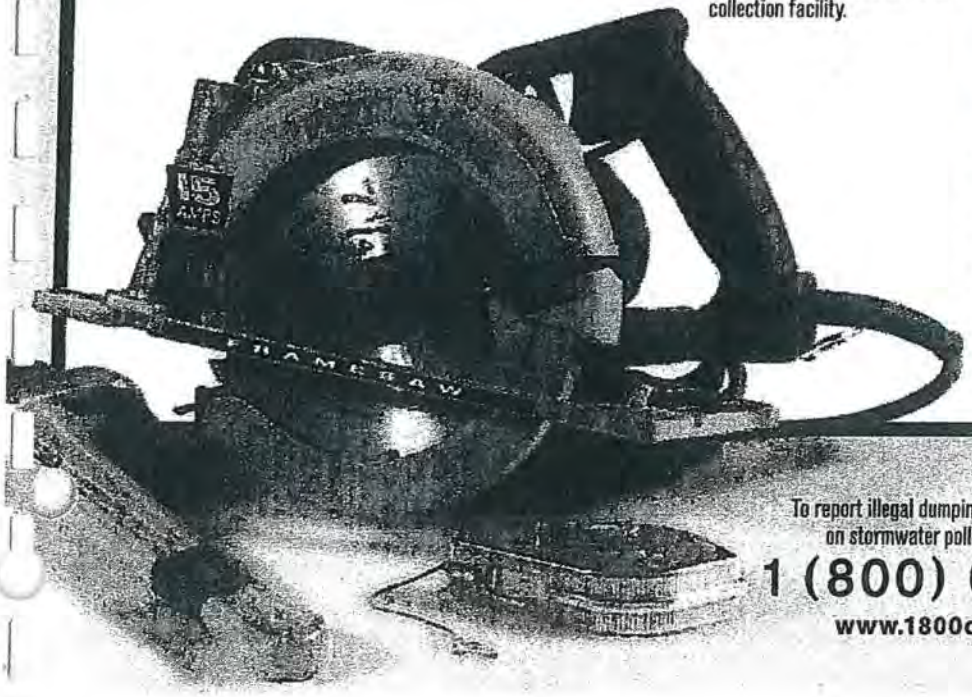
Painting Cleanup

Avoid cleaning brushes or rinsing paint containers in the street, gutter or near a storm drain. Clean water-based paints in the sink. Clean oil-based paints with thinner, which you can filter and reuse. Recycle leftover paint at a household hazardous waste collection facility, save it for touch ups or give it to someone who can use it, like a theatre group, school, city or community organization.



Concrete and Masonry

Store bags of cement and plaster away from gutters and storm drains, and cover them to protect against rain, wind and runoff. Sweep or scoop up cement washout or concrete dust instead of hosing into driveways, streets, gutters or storm drains.



To report illegal dumping or for more information on stormwater pollution prevention, call:

1 (800) CLEANUP

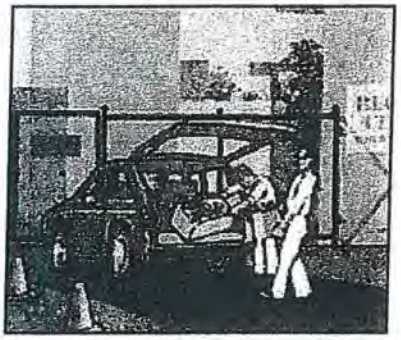
www.1800cleanup.org

San Bernardino County STORMWATER PROGRAM

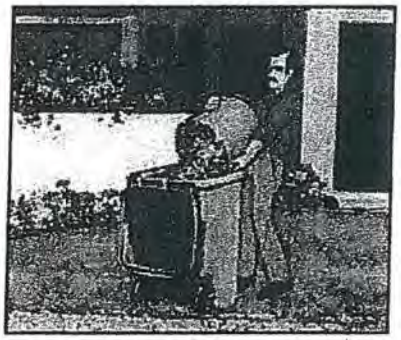
STORMWATER Pollution Prevention

HOME & GARDEN

Yard waste and household toxics like paints and pesticides often make their way into the San Bernardino County storm drain system and do not get treated before reaching the Santa Ana River. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife. Follow these simple tips to prevent pollution and protect your health.



Recycle Household Hazardous Waste
Household products like paint, pesticides, solvents and cleaners are too dangerous to dump and too toxic to trash. Take them to be recycled at a convenient household hazardous waste collection facility. Call (800) CLEANUP for the facility in your area.



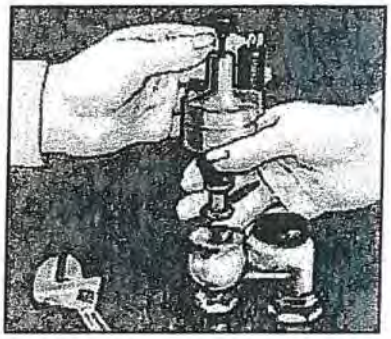
Disposing of Yard Waste
Recycle leaves, grass clippings and other yard waste, instead of blowing, sweeping or hosing into the street. Try grasscycling, leaving grass clippings on your lawn instead of using a grass catcher. The clippings act as a natural fertilizer, and because grass is mostly water, it also irrigates your lawn, conserving water.



Use Fertilizers & Pesticides Safely
Fertilizers and pesticides are often carried into the storm drain system by sprinkler runoff. Try using organic or non-toxic alternatives. If you use chemical fertilizers or pesticides, avoid applying near curbs and driveways and never apply before a rain.



Planting in the Yard
Produce less yard waste and save water by planting low maintenance, drought-tolerant trees and shrubs. Using drip irrigation, soaker hoses or micro-spray systems for flower beds and vegetation can also help reduce your water bill and prevent runoff.



Use Water Wisely
Cut your water costs and prevent runoff by controlling the amount of water and direction of sprinklers. The average lawn needs about an inch of water a week, including rainfall, or 10 to 20 minutes of watering. A half-inch per week is enough for fall and spring. Sprinklers should be on long enough to allow water to soak into the ground but not so long as to cause runoff.

To report illegal dumping or for more information on stormwater pollution prevention, call:

1 (800) CLEANUP

www.1800cleanup.org

San Bernardino County STORMWATER PROGRAM

Drainage System Maintenance SC-44



Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize

Description

As a consequence of its function, the stormwater conveyance system collects and transports urban runoff and stormwater that may contain certain pollutants. The protocols in this fact sheet are intended to reduce pollutants reaching receiving waters through proper conveyance system operation and maintenance.

Targeted Constituents

Sediment	✓
Nutrients	
Trash	✓
Metals	
Bacteria	✓
Oil and Grease	
Organics	

Approach

Pollution Prevention

Maintain catch basins, stormwater inlets, and other stormwater conveyance structures on a regular basis to remove pollutants, reduce high pollutant concentrations during the first flush of storms, prevent clogging of the downstream conveyance system, restore catch basins' sediment trapping capacity, and ensure the system functions properly hydraulically to avoid flooding.

Suggested Protocols

Catch Basins/Inlet Structures

- Staff should regularly inspect facilities to ensure compliance with the following:
  - Immediate repair of any deterioration threatening structural integrity.
  - Cleaning before the sump is 40% full. Catch basins should be cleaned as frequently as needed to meet this standard.
  - Stenciling of catch basins and inlets (see SC34 Waste Handling and Disposal).

CASQA California Stormwater Quality Association

Waste Handling & Disposal SC-34

Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, reuse, and recycling; and preventing run-on and runoff.

Approach

Reduce potential for pollutant discharge through source control pollution prevention and BMP implementation. Successful implementation depends on effective training of employees on applicable BMPs and general pollution prevention strategies and objectives.

General Pollution Prevention Protocols

- ☐ Accomplish reduction in the amount of waste generated using the following source controls:
  - ✓ Production planning and sequencing;
  - ✓ Process or equipment modification;
  - ✓ Raw material substitution or elimination;
  - ✓ Loss prevention and housekeeping;
  - ✓ Waste segregation and separation; and
  - ✓ Close loop recycling.
- ☐ Establish a material tracking system to increase awareness about material usage. This may reduce spills and minimize contamination, thus reducing the amount of waste produced.
- ☐ Recycle materials whenever possible.

Objectives
■ *Cover*
■ *Contain*
■ *Educate*
■ *Reduce/Minimize*
■ *Product Substitution*

Targeted Constituents	
Sediment	
Nutrients	
Trash	
Metals	✓
Bacteria	✓
Oil and Grease	✓
Organics	✓

Minimum BMPs Covered	
Good Housekeeping	✓
Preventative Maintenance	✓
Spill and Leak Prevention and Response	✓
Material Handling & Waste Management	✓
Erosion and Sediment Controls	
Employee Training Program	✓
Quality Assurance Record Keeping	✓

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

- Use the entire product before disposing of the container.
- To the extent possible, store wastes under cover or indoors after ensuring all safety concerns such as fire hazard and ventilation are addressed.
- Provide containers for each waste stream at each work station. Allow time after shift to clean area.



Good Housekeeping

- Cover storage containers with leak proof lids or some other means. If waste is not in containers, cover all waste piles (plastic tarps are acceptable coverage) and prevent stormwater run-on and runoff with a berm. The waste containers or piles must be covered except when in use.
- Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Grease cannot be left on the ground. Collected grease must be properly disposed of as garbage.
- Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer if allowed by the local sewer authority. Do not discharge wash water to the street or storm drain. Clean in a designated wash area that drains to a clarifier.
- Transfer waste from damaged containers into safe containers.
- Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.
- Keep the waste management area clean at all times by sweeping and cleaning up spills immediately.
- Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Stencil or demarcate storm drains on the facility's property with prohibitive message regarding waste disposal.
- Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- If possible, move the activity indoor after ensuring all safety concerns such as fire hazard and ventilation are addressed.



Preventative Maintenance

- Prevent stormwater run-on from entering the waste management area by enclosing the area or building a berm around the area.
- Prevent waste materials from directly contacting rain.

- Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- Cover the area with a permanent roof if feasible.
- Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- Check waste containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the waste management area regularly. Use dry methods when possible (e.g., sweeping, vacuuming, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Repair leaking equipment including valves, lines, seals, or pumps promptly.



Spill Response and Prevention Procedures

- Keep your spill prevention and plan up-to-date.
- Have an emergency plan, equipment and trained personnel ready at all times to deal immediately with major spills.
- Collect all spilled liquids and properly dispose of them.
- Store and maintain appropriate spill cleanup materials in a location known to all near the designated wash area.
- Ensure that vehicles transporting waste have spill prevention equipment that can prevent spills during transport. Spill prevention equipment includes:
  - ✓ Vehicles equipped with baffles for liquid waste; and
  - ✓ Trucks with sealed gates and spill guards for solid waste.



Material Handling and Waste Management

Litter Control

- Post "No Littering" signs and enforce anti-litter laws.
- Provide a sufficient number of litter receptacles for the facility.
- Clean out and cover litter receptacles frequently to prevent spillage.

Waste Collection

- Keep waste collection areas clean.

- Inspect solid waste containers for structural damage regularly. Repair or replace damaged containers as necessary.
- Secure solid waste containers; containers must be closed tightly when not in use.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc., may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).
- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal. Affix labels to all waste containers.

Chemical/Hazardous Wastes

- Select designated hazardous waste collection areas on-site.
- Store hazardous materials and wastes in covered containers and protect them from vandalism.
- Place hazardous waste containers in secondary containment.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.
- Hazardous waste cannot be reused or recycled; it must be disposed of by a licensed hazardous waste hauler.



Employee Training Program

- Educate employees about pollution prevention measures and goals.
- Train employees how to properly handle and dispose of waste using the source control BMPs described above.
- Train employees and subcontractors in proper hazardous waste management.
- Use a training log or similar method to document training.
- Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.



Quality Assurance and Record Keeping

- Keep accurate maintenance logs that document minimum BMP activities performed for waste handling and disposal, types and quantities of waste disposed of, and any improvement actions.
- Keep accurate logs of spill response actions that document what was spilled, how it was cleaned up, and how the waste was disposed.

- Establish procedures to complete logs and file them in the central office.

Potential Capital Facility Costs and Operation & Maintenance Requirements

Facilities

- Capital costs will vary substantially depending on the size of the facility and the types of waste handled. Significant capital costs may be associated with reducing wastes by modifying processes or implementing closed-loop recycling.
- Many facilities will already have indoor covered areas where waste materials will be stored and will require no additional capital expenditures for providing cover.
- If outdoor storage of wastes is required, construction of berms or other means to prevent stormwater run-on and runoff may require appropriate constructed systems for containment.
- Capital investments will likely be required at some sites if adequate cover and containment facilities do not exist and can vary significantly depending upon site conditions.

Maintenance

- Check waste containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the waste management area regularly. Use dry methods when possible (e.g., sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Repair leaking equipment including valves, lines, seals, or pumps promptly.

References and Resources

Minnesota Pollution Control Agency, *Industrial Stormwater Best Management Practices Guidebook*. Available online at: http://www.pca.state.mn.us/index.php/view-document.html?gid=10557.

New Jersey Department of Environmental Protection, 2013. *Basic Industrial Stormwater General Permit Guidance Document NJPDES General Permit No NJ0088315,* Revised. Available online at: http://www.nj.gov/dep/dwq/pdf/5G2_guidance_color.pdf.

Orange County Stormwater Program, Best Management Practices for Industrial/Commercial Business Activities. Available online at: http://ocwatersheds.com/documents/bmp/industrialcommercialbusinessesactivities

Oregon Department of Environmental Quality, 2013. *Industrial Stormwater Best Management Practices Manual- BMP 26 Fueling and Liquid Loading/Unloading Operations*. Available online at: http://www.deq.state.or.us/wq/wqpermit/docs/IndBMP021413.pdf.

Sacramento Stormwater Management Program. *Best Management Practices for Industrial Storm Water Pollution Control*. Available online at: http://www.msa.saccounty.net/sactostormwater/documents/guides/industrial-BMP-manual.pdf.

Sacramento County Environmental Management Stormwater Program: Best Management Practices. Available online at: http://www.emd.saccounty.net/EnvHealth/Stormwater/Stormwater-BMPs.html.

Santa Clara Valley Urban Runoff Pollution Prevention Program. http://www.scvurppp-w2k.com/

US EPA. National Pollutant Discharge Elimination System – Industrial Fact Sheet Series for Activities Covered by EPA's Multi Sector General Permit. Available online at: http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm.

- Clean catch basins, storm drain inlets, and other conveyance structures before the wet season to remove sediments and debris accumulated during the summer.
- Conduct inspections more frequently during the wet season for problem areas where sediment or trash accumulates more often. Clean and repair as needed.
- Keep accurate logs of the number of catch basins cleaned.
- Store wastes collected from cleaning activities of the drainage system in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not allowed, water should be pumped or vacuumed to a tank and properly disposed. Do not dewater near a storm drain or stream.

Storm Drain Conveyance System

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Collect and pump flushed effluent to the sanitary sewer for treatment whenever possible.

Pump Stations

- Clean all storm drain pump stations prior to the wet season to remove silt and trash.
- Do not allow discharge to reach the storm drain system when cleaning a storm drain pump station or other facility.
- Conduct routine maintenance at each pump station.
- Inspect, clean, and repair as necessary all outlet structures prior to the wet season.

Open Channel

- Modify storm channel characteristics to improve channel hydraulics, increase pollutant removals, and enhance channel/creek aesthetic and habitat value.
- Conduct channel modification/improvement in accordance with existing laws. Any person, government agency, or public utility proposing an activity that will change the natural (emphasis added) state of any river, stream, or lake in California, must enter into a Steam or Lake Alteration Agreement with the Department of Fish and Game. The developer-applicant should also contact local governments (city, county, special districts), other state agencies (SWRCB, RWQCB, Department of Forestry, Department of Water Resources), and Federal Corps of Engineers and USFWS.

Illicit Connections and Discharges

- Look for evidence of illegal discharges or illicit connections during routine maintenance of conveyance system and drainage structures:
  - Is there evidence of spills such as paints, discoloring, etc?

- Are there any odors associated with the drainage system?
- Record locations of apparent illegal discharges/illicit connections?
- Track flows back to potential dischargers and conduct aboveground inspections. This can be done through visual inspection of upgradient manholes or alternate techniques including zinc chloride smoke testing, fluorometric dye testing, physical inspection testing, or television camera inspection.
- Eliminate the discharge once the origin of flow is established.

- Stencil or demarcate storm drains, where applicable, to prevent illegal disposal of pollutants. Storm drain inlets should have messages such as "Dump No Waste Drains to Stream" stenciled next to them to warn against ignorant or intentional dumping of pollutants into the storm drainage system.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

Illegal Dumping

- Inspect and clean up hot spots and other storm drainage areas regularly where illegal dumping and disposal occurs.
- Establish a system for tracking incidents. The system should be designed to identify the following:
  - Illegal dumping hot spots
  - Types and quantities (in some cases) of wastes
  - Patterns in time of occurrence (time of day/night, month, or year)
  - Mode of dumping (abandoned containers, "midnight dumping" from moving vehicles, direct dumping of materials, accidents/spills)
  - Responsible parties
- Post "No Dumping" signs in problem areas with a phone number for reporting dumping and disposal. Signs should also indicate fines and penalties for illegal dumping.
- Refer to fact sheet SC-10 Non-Stormwater Discharges.

Training

- Train crews in proper maintenance activities, including record keeping and disposal.
- Allow only properly trained individuals to handle hazardous materials/wastes.
- Have staff involved in detection and removal of illicit connections trained in the following:
  - OSHA-required Health and Safety Training (29 CFR 1910.120) plus annual refresher training (as needed).

- OSHA Confined Space Entry training (Cal-OSHA Confined Space, Title 8 and Federal OSHA 29 CFR 1910.146).

- Procedural training (field screening, sampling, smoke/dye testing, TV inspection).

Spill Response and Prevention

- Investigate all reports of spills, leaks, and/or illegal dumping promptly.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags) or dig up, remove, and properly dispose of contaminated soil.
- Refer to fact sheet SC-11 Spill Prevention, Control, and Cleanup.

Other Considerations (Limitations and Regulations)

- Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.
- Storm drain flushing is most effective in small diameter pipes (36-inch diameter pipe or less, depending on water supply and sediment collection capacity). Other considerations associated with storm drain flushing may include the availability of a water source, finding a downstream area to collect sediments, liquid/sediment disposal, and prohibition against disposal of flushed effluent to sanitary sewer in some areas.
- Regulations may include adoption of substantial penalties for illegal dumping and disposal.
- Local municipal codes may include sections prohibiting discharge of soil, debris, refuse, hazardous wastes, and other pollutants into the storm drain system.

Requirements

Costs

- An aggressive catch basin cleaning program could require a significant capital and O&M budget.
- The elimination of illegal dumping is dependent on the availability, convenience, and cost of alternative means of disposal. The primary cost is for staff time. Cost depends on how aggressively a program is implemented. Other cost considerations for an illegal dumping program include:

  - Purchase and installation of signs.

  - Rental of vehicle(s) to haul illegally-disposed items and material to landfills.

  - Rental of heavy equipment to remove larger items (e.g., car bodies) from channels.

  - Purchase of landfill space to dispose of illegally-dumped items and material.

- Methods used for illicit connection detection (smoke testing, dye testing, visual inspection, and flow monitoring) can be costly and time-consuming. Site-specific factors, such as the level of impervious area, the density and ages of buildings, and type of land use will determine the level of investigation necessary.

Maintenance

- Two-person teams may be required to clean catch basins with vactor trucks.
- Teams of at least two people plus administrative personnel are required to identify illicit discharges, depending on the complexity of the storm sewer system.
- Arrangements must be made for proper disposal of collected wastes.
- Technical staff are required to detect and investigate illegal dumping violations.

Supplemental Information

Further Detail of the BMP

Storm Drain Flushing

Flushing is a common maintenance activity used to improve pipe hydraulics and to remove pollutants in storm drainage systems. Flushing may be designed to hydraulically convey accumulated material to strategic locations, such as an open channel, another point where flushing will be initiated, or the sanitary sewer and the treatment facilities, thus preventing resuspension and overflow of a portion of the solids during storm events. Flushing prevents "plug flow" discharges of concentrated pollutant loadings and sediments. Deposits can hinder the designed conveyance capacity of the storm drain system and potentially cause backwater conditions in severe cases of clogging.

Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, thereby releasing the backed up water and resulting in the cleaning of the storm drain segment.

To further reduce impacts of stormwater pollution, a second inflatable device placed well downstream may be used to recollect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to the sanitary sewer for treatment. In some cases, an interceptor structure may be more practical or required to recollect the flushed waters.

It has been found that cleansing efficiency of periodic flush waves is dependent upon flush volume, flush discharge rate, sewer slope, sewer length, sewer flow rate, sewer diameter, and population density. As a rule of thumb, the length of line to be flushed should not exceed 700 feet. At this maximum recommended length, the percent removal efficiency ranges between 65-75% for organics and 55-65% for dry weather grit/inorganic material. The percent removal efficiency drops rapidly beyond that. Water is commonly supplied by a water truck, but fire hydrants can also supply water. To make the best use of water, it is recommended that reclaimed water be used or that fire hydrant line flushing coincide with storm sewer flushing.

References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

Clark County Storm Water Pollution Control Manual
http://www.co.clark.wa.us/pubworks/bmpman.pdf

Ferguson, B.K. 1991. Urban Stream Reclamation, p. 324-322, Journal of Soil and Water Conservation.

King County Storm Water Pollution Control Manual http://dnr.metrokc.gov/wlr/dss/spcm.htm

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program http://www.scvurppp.org

The Storm Water Managers Resource Center http://www.stormwatercenter.net

United States Environmental Protection Agency (USEPA). 2002. Pollution Prevention/Good Housekeeping for Municipal Operations Storm Drain System Cleaning. On line:
http://www.epa.gov/npdes/menuofbmps/poll_16.htm



Landscaping and garden maintenance activities can be major contributors to water pollution. Soils, yard wastes, over-watering and garden chemicals become part of the urban runoff mix that winds its way through streets, gutters and storm drains before entering lakes, rivers, streams, etc. Urban runoff pollution contaminates water and harms aquatic life!

1737

In Riverside County, report illegal discharges into the storm drain, call
1-800-506-2555
"Only Rain Down the Storm Drain"

Important Links:

Riverside County Household Hazardous Waste Collection Information
1-800-304-2226 or www.rivcowm.org

Riverside County Backyard Composting Program
1-800-366-SAVE

Integrated Pest Management (IPM) Solutions
www.ipm.ucdavis.edu

California Master Gardener Programs
www.mastergardeners.org
www.camastergardeners.ucdavis.edu

California Native Plant Society
www.cnps.org

The Riverside County "Only Rain Down the Storm Drain" Pollution Prevention Program gratefully acknowledges Orange County's Storm Water Program for their contribution to this brochure.

...Only Rain Down ...the Storm Drain

What you should know for... Landscape and Gardening

Best Management tips for:

- Professionals
- Novices
- Landscapers
- Gardeners
- Cultivators



Tips for Landscape & Gardening

This brochure will help you to get the most of your lawn and gardening efforts and keep our waterways clean. Clean waterways provide recreation, establish thriving fish habitats, secure safe sanctuaries for wildlife, and add beauty to our communities. NEVER allow gardening products or waste water to enter the street, gutter or storm drain.

General Landscaping Tips

- Protect stockpiles and materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Prevent erosion of slopes by planting fast-growing, dense ground covering plants. These will shield and bind the soil.



- Plant native vegetation to reduce the amount of water, fertilizers and pesticides applied to the landscape.
- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.

Garden & Lawn Maintenance

- Do not overwater. Use irrigation practices such as drip irrigation, soaker hoses or micro-spray systems. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of green waste by composting, hauling it to a permitted landfill, or recycling it through your city's program.



- Consider recycling your green waste and adding "nature's own fertilizer" to your lawn or garden.
- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed, rather than blanketing an entire area.
- Store pesticides, fertilizers and other chemicals in a dry covered area to prevent exposure that may result in the deterioration of containers and packaging.
- Rinse empty pesticide containers and re-use rinse water as you would use the product. Do not dump rinse water down storm drains or sewers. Dispose of empty containers in the trash.
- When available, use non-toxic alternatives to traditional pesticides, and use pesticides specifically designed to control the pest you are targeting.
- Try natural long-term common sense solutions first. Integrated Pest Management (IPM) can provide landscaping guidance and solutions, such as:
  - **Physical Controls** - Try hand picking, barriers, traps or caulking holes to control weeds and pests.
  - **Biological Controls** - Use predatory insects to control harmful pests.
  - **Chemical Controls** - Check out www.ipm.ucdavis.edu before using chemicals. Remember, all chemicals should be used cautiously and in moderation.
- If fertilizer is spilled, sweep up the spill before irrigating. If the spill is liquid, apply an absorbent material such as cat litter, and then sweep it up and dispose of it in the trash.
- Take unwanted pesticides to a Household Waste Collection Center to be recycled.
- *Dumping toxics into the street, gutter or storm drain is illegal!*

www.bewaterwise.com Great water conservation tips and drought tolerant garden designs.

www.ourwaterourworld.com Learn how to safely manage home and garden pests.

Additional information can also be found on the back of this brochure.

We ♥ our Watershed!

A clean and healthy watershed is important to all of us.

Trash, debris, chemicals and other contaminants from business activities often make their way into the Riverside County storm drain system. This pollutes our drinking water and contaminates waterways, making them unsafe for people and wildlife.

Did you know?

There is a difference between storm drains and sewers.

Storm drains capture rainwater and flow directly to our rivers, lakes and streams – untreated.

Sewers capture and collect water from sinks, toilets and floor drains, and then it is processed and treated before it is released into the environment.

For more information about how you can protect our watershed, please visit:
www.rcwatershed.org

Questions?

If you have questions about Best Management Practices, or if you have questions about illicit dumping and stormwater pollution visit the Pollution Prevention website: rcwatershed.org.

For more information on requirements for all retail food facilities go to Riverside County Environmental Health's website: rivcoeh.org

RIVERSIDE COUNTY
WATERSHED PROTECTION

Riverside County Watershed Protection Program is managed by Riverside County Flood Control & Water Conservation District in partnership with 27 Cities, the County of Riverside and the Coachella Valley Water District.

OUR MISSION

"To protect, preserve and enhance the quality of Riverside County watersheds by fostering a community-wide commitment to clean water."

Watershed Protection

Food Service Industry Best Practices



Restaurants
Mobile Food Trucks
Grocery Stores
Bakeries
Delicatessens

Best Kitchen Practices

Recycle Oil & Grease

- Never put oil or grease down the drain. Contain grease and oil by using covered grease storage containers or installing a grease interceptor.
- Never overfill your grease storage container or transport it without a cover.
- Grease control devices must be emptied and cleaned by permitted companies and according to manufacturer's specifications.
- Keep maintenance records on site.
- For a list of oil/grease recycling companies, contact CalRecycle www.calrecycle.ca.gov or contact your local sanitation district.

Managing Spills

- Clean food spills in loading and trash areas by using absorbent materials and sweeping then mopping.
- Discharge mop water into the sewer through a grease interceptor.
- Have spill containment and cleanup kits available.
- To report serious toxic spills, call 911.

Handling Toxic Chemicals

- Dispose of all unwanted toxics materials like cleaners, solvents and detergents through a hazardous waste hauler. These items are not trash!
- Use non-toxic cleaning products whenever possible.
- For information on hazardous waste transporters, call (888) 722-4234.

Dumpster Areas

- Keep dumpster lids closed and the areas around them clean.
- Do not fill with liquid waste or hose them out.
- Call your trash hauler to replace any dumpsters that are damaged or leaking.



Cleaning & Maintenance

- Clean equipment, floor mats, filters and garbage cans in a mop sink, wash rack or floor drain connected to a sanitary sewer.
- Sweep outside areas and put the debris in trash containers DO NOT hose down or sweep into the parking lot or street.
- Outside eating areas and sidewalks may not be hosed down or pressure washed UNLESS the following standards are met:
  - ✓ Use dry cleanup methods prior to any pressure washing – absorbing with kitty litter, sweeping, vacuuming, scraping off dried debris.
  - ✓ Wash waters must be captured for proper disposal: collected waters should be discharged to a sanitary drain.
  - ✓ DO NOT use any chemicals or detergents.
  - ✓ DO NOT wash or pour water in a parking lot, alley, sidewalk or street.

Mobile Food Trucks

- The potential for generating stormwater pollution as part of a mobile food business requires special attention. Cleaning activities are required to be conducted at an approved fixed location with a connection to a sanitary sewer. For more information contact Riverside County Environmental Health at (888) 722-4234.
- Do not discharge wash water into storm drains.
- Clean on a properly equipped wash pad and drain wastewater to a sanitary sewer system.

Food Waste Disposal

- Scrape food waste off of plates, pots and food prep areas and dispose of in the trash.
- Food scraps often contain grease, which can clog sewer pipes and result in costly sewer backups and overflows.
- Never put food waste down the drain.

RECYCLE
USED OIL

Waste Handling & Disposal SC-34



Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Description

Improper storage and handling of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction, re-use, and recycling; and preventing runon and runoff.

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Approach

Pollution Prevention

- Reduction in the amount of waste generated can be accomplished using the following source controls such as:
  - Production planning and sequencing
  - Process or equipment modification
  - Raw material substitution or elimination
  - Loss prevention and housekeeping
  - Waste segregation and separation
  - Close loop recycling
- Establish a material tracking system to increase awareness about material usage. This may reduce spills and minimize contamination, thus reducing the amount of waste produced.
- Recycle materials whenever possible.

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Suggested Protocols

General

- Cover storage containers with leak proof lids or some other means. If waste is not in containers, cover all waste piles (plastic tarps are acceptable coverage) and prevent stormwater runon and runoff with a berm. The waste containers or piles must be covered except when in use.
- Use drip pans or absorbent materials whenever grease containers are emptied by vacuum trucks or other means. Grease cannot be left on the ground. Collected grease must be properly disposed of as garbage.
- Check storage containers weekly for leaks and to ensure that lids are on tightly. Replace any that are leaking, corroded, or otherwise deteriorating.
- Sweep and clean the storage area regularly. If it is paved, do not hose down the area to a storm drain.
- Dispose of rinse and wash water from cleaning waste containers into a sanitary sewer if allowed by the local sewer authority. Do not discharge wash water to the street or storm drain.
- Transfer waste from damaged containers into safe containers.
- Take special care when loading or unloading wastes to minimize losses. Loading systems can be used to minimize spills and fugitive emission losses such as dust or mist. Vacuum transfer systems can minimize waste loss.

Controlling Litter

- Post "No Littering" signs and enforce anti-litter laws.
- Provide a sufficient number of litter receptacles for the facility.
- Clean out and cover litter receptacles frequently to prevent spillage.

Waste Collection

- Keep waste collection areas clean.
- Inspect solid waste containers for structural damage or leaks regularly. Repair or replace damaged containers as necessary.
- Secure solid waste containers; containers must be closed tightly when not in use.
- Place waste containers under cover if possible.
- Do not fill waste containers with washout water or any other liquid.
- Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc. may not be

disposed of in solid waste containers (see chemical/ hazardous waste collection section below).

- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.

Good Housekeeping

- Use all of the product before disposing of the container.
- Keep the waste management area clean at all times by sweeping and cleaning up spills immediately.
- Use dry methods when possible (e.g. sweeping, use of absorbents) when cleaning around restaurant/food handling dumpster areas. If water must be used after sweeping/using absorbents, collect water and discharge through grease interceptor to the sewer.
- Stencil storm drains on the facility's property with prohibitive message regarding waste disposal.

Chemical/Hazardous Wastes

- Select designated hazardous waste collection areas on-site.
- Store hazardous materials and wastes in covered containers protected from vandalism, and in compliance with fire and hazardous waste codes.
- Place hazardous waste containers in secondary containment.
- Make sure that hazardous waste is collected, removed, and disposed of only at authorized disposal areas.

Runon/Runoff Prevention

- Prevent stormwater runon from entering the waste management area by enclosing the area or building a berm around the area.
- Prevent the waste materials from directly contacting rain.
- Cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropyleneor hypalon.
- Cover the area with a permanent roof if feasible.
- Cover dumpsters to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.
- Move the activity indoor after ensuring all safety concerns such as fire hazard and ventilation are addressed.

Inspection

- Inspect and replace faulty pumps or hoses regularly to minimize the potential of releases and spills.
- Check waste management areas for leaking containers or spills.
- Repair leaking equipment including valves, lines, seals, or pumps promptly.

Training

- Train staff pollution prevention measures and proper disposal methods.
- Train employees and contractors proper spill containment and cleanup. The employee should have the tools and knowledge to immediately begin cleaning up a spill if one should occur.
- Train employees and subcontractors in proper hazardous waste management.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup.
- Keep your Spill Prevention Control and countermeasure (SPCC) plan up-to-date, and implement accordingly.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.
- Vehicles transporting waste should have spill prevention equipment that can prevent spills during transport. The spill prevention equipment includes:
  - Vehicles equipped with baffles for liquid waste
  - Trucks with sealed gates and spill guards for solid waste

Other Considerations

- Hazardous waste cannot be re-used or recycled; it must be disposed of by a licensed hazardous waste hauler.

Requirements

Costs

- Capital and operation and maintenance costs will vary substantially depending on the size of the facility and the types of waste handled. Costs should be low if there is an inventory program in place.

Maintenance

- None except for maintaining equipment for material tracking program.

Supplemental Information

Further Detail of the BMP

Land Treatment System

- Minimize the runoff of polluted stormwater from land application of municipal waste on-site by:
  - Choosing a site where slopes are under 6%, the soil is permeable, there is a low water table, it is located away from wetlands or marshes, there is a closed drainage system.
  - Avoiding application of waste to the site when it is raining or when the ground is saturated with water.
  - Growing vegetation on land disposal areas to stabilize soils and reduce the volume of surface water runoff from the site.
  - Maintaining adequate barriers between the land application site and the receiving waters. Planted strips are particularly good.
  - Using erosion control techniques such as mulching and matting, filter fences, straw bales, diversion terracing, and sediment basins.
  - Performing routine maintenance to ensure the erosion control or site stabilization measures are working.

References and Resources

King County Stormwater Pollution Control Manual - http://dnr.metrokc.gov/wlr/dss/spcm.htm

Orange County Stormwater Program
http://www.ocwatersheds.com/StormWater/swp_introduction.asp

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Associations (BASMAA). On-line: http://www.basmaa.org

Helpful telephone numbers and links:

Riverside County Stormwater Protection Partners

Flood Control District	(951) 955-1200
County of Riverside	(951) 955-1000
City of Banning	(951) 922-3105
City of Beaumont	(951) 769-8520
City of Calimesa	(909) 795-9801
City of Canyon Lake	(951) 244-2955
Cathedral City	(760) 770-0327
City of Coachella	(760) 398-4978
City of Corona	(951) 736-2447
City of Desert Hot Springs	(760) 329-6411
City of Eastvale	(951) 361-0900
City of Hemet	(951) 765-2300
City of Indian Wells	(760) 346-2489
City of Indio	(760) 391-4000
City of Lake Elsinore	(951) 674-3124
City of La Quinta	(760) 777-7000
City of Menifee	(951) 672-6777
City of Moreno Valley	(951) 413-3000
City of Murrieta	(951) 304-2489
City of Norco	(951) 270-5607
City of Palm Desert	(760) 346-0611
City of Palm Springs	(760) 323-8299
City of Perris	(951) 943-6100
City of Rancho Mirage	(760) 324-4511
City of Riverside	(951) 361-0900
City of San Jacinto	(951) 654-7337
City of Temecula	(951) 694-6444
City of Wildomar	(951) 677-7751

REPORT ILLEGAL STORM DRAIN DISPOSAL
1-800-506-2555 or e-mail us at
fcnpdes@rcflood.org

- Riverside County Flood Control and Water Conservation District
  www.rcflood.org

Online resources include:

- California Storm Water Quality Association
  www.casqa.org
- State Water Resources Control Board
  www.waterboards.ca.gov
- Power Washers of North America
  www.thepwna.org

Stormwater Pollution

What you should know for...

Outdoor Cleaning Activities and Professional Mobile Service Providers



Storm drain pollution prevention information for:

- Car Washing / Mobile Detailers
- Window and Carpet Cleaners
- Power Washers
- Waterproofers / Street Sweepers
- Equipment cleaners or degreasers and all mobile service providers

Do you know where street flows actually go?

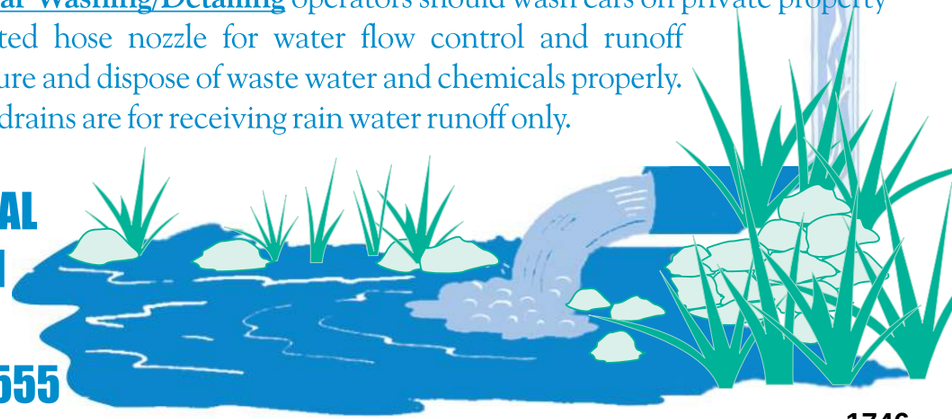
Storm drains are NOT connected to sanitary sewer systems and treatment plants!



The primary purpose of storm drains is to carry *rain* water away from developed areas to prevent flooding. Pollutants discharged to storm drains are transported directly into rivers, lakes and streams. Soaps, degreasers, automotive fluids, litter and a host of materials are washed off buildings, sidewalks, plazas and parking areas. Vehicles and equipment must be properly managed to prevent the pollution of local waterways.

Unintentional spills by mobile service operators can flow into storm drains and pollute our waterways. **Avoid mishaps.** *Always* have a **Spill Response Kit** on hand to clean up unintentional spills. Only emergency **Mechanical** repairs should be done in City streets, using drip pans for spills. **Plumbing** should be done on private property. Always store chemicals in a leak-proof container and keep covered when not in use. **Window/Power Washing** waste water shouldn't be released into the streets, but should be disposed of in a sanitary sewer, landscaped area or in the soil. Soiled **Carpet Cleaning** wash water should be filtered before being discharged into the sanitary sewer. Dispose of all filter debris properly. **Car Washing/Detailing** operators should wash cars on private property and use a regulated hose nozzle for water flow control and runoff prevention. Capture and dispose of waste water and chemicals properly. Remember, storm drains are for receiving rain water runoff only.

REPORT ILLEGAL STORM DRAIN DISPOSAL 1-800-506-2555



Help Protect Our Waterways!

Use these guidelines for Outdoor Cleaning Activities and Wash Water Disposal

Did you know that disposing of pollutants into the street, gutter, storm drain or body of water is *PROHIBITED* by law and can result in stiff penalties?

Best Management Practices

Waste wash water from Mechanics, Plumbers, Window/Power Washers, Carpet Cleaners, Car Washing and Mobile Detailing activities may contain significant quantities of motor oil, grease, chemicals, dirt, detergents, brake pad dust, litter and other materials.

Best Management Practices, or BMPs as they are known, are guides to prevent pollutants from entering the storm drains. ***Each of us*** can do our part to keep stormwater clean by using the suggested BMPs below:

Simple solutions for both light and heavy duty jobs:

Do...consider dry cleaning methods first such as a mop, broom, rag or wire brush. Always keep a spill response kit on site.

Do...prepare the work area before power cleaning by using sand bags, rubber mats, vacuum booms, containment pads or temporary berms to keep wash water away from the gutters and storm drains.

Do...use vacuums or other machines to remove and collect loose debris or litter before applying water.

Do...obtain the property owner's permission to dispose of ***small amounts*** of power washing waste water on to landscaped, gravel or unpaved surfaces.

Do...check your local sanitary sewer agency's policies on wash water disposal regulations before disposing of wash water into the sewer. (See list on reverse side)

Do...be aware that if discharging to landscape areas, soapy wash water may damage landscaping. Residual wash water may remain on paved surfaces to evaporate. Sweep up solid residuals and dispose of properly. Vacuum booms are another option for capturing and collecting wash water.

Do...check to see if local ordinances prevent certain activities.

Do not let...wash or waste water from sidewalk, plaza or building cleaning go into a street or storm drain.



Report illegal storm drain disposal
Call Toll Free
1-800-506-2555

Using Cleaning Agents

Try using biodegradable/phosphate-free products. They are easier on the environment, but don't confuse them with being toxic free. Soapy water entering the storm drain system can impact the delicate aquatic environment.



When cleaning surfaces with a ***high-pressure washer*** or ***steam cleaner***, additional precautions should be taken to prevent the discharge of pollutants into the storm drain system. These two methods of surface cleaning can loosen additional material that can contaminate local waterways.

Think Water Conservation

Minimize water use by using high pressure, low volume nozzles. Be sure to check all hoses for leaks. Water is a precious resource, don't let it flow freely and be sure to shut it off in between uses.

Screening Wash Water

Conduct thorough dry cleanup before washing exterior surfaces, such as buildings and decks ***with loose paint***, sidewalks or plaza areas. Keep debris from entering the storm drain after cleaning by first passing the wash water through a "20 mesh" or finer screen to catch the solid materials, then dispose of the mesh in a refuse container. Do not let the remaining wash water enter a street, gutter or storm drain.

Drain Inlet Protection & Collection of Wash Water

- Prior to any washing, block all storm drains with an impervious barrier such as sandbags or berms, or seal the storm drain with plugs or other appropriate materials.
- Create a containment area with berms and traps or take advantage of a low spot to keep wash water contained.
- Wash vehicles and equipment on grassy or gravel areas so that the wash water can seep into the ground.
- Pump or vacuum up all wash water in the contained area.

Concrete/Coring/Saw Cutting and Drilling Projects

Protect any down-gradient inlets by using dry activity techniques whenever possible. If water is used, minimize the amount of water used during the coring/drilling or saw cutting process. Place a barrier of sandbags and/or absorbent berms to protect the storm drain inlet or watercourse. Use a shovel or wet vacuum to remove the residue from the pavement. Do not wash residue or particulate matter into a storm drain inlet or watercourse.

Building & Grounds Maintenance SC-41



Objectives

- Cover
- Contain
- Educate
- Reduce/Minimize
- Product Substitution

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑
Oxygen Demanding	☑

Description

Stormwater runoff from building and grounds maintenance activities can be contaminated with toxic hydrocarbons in solvents, fertilizers and pesticides, suspended solids, heavy metals, and abnormal pH. Utilizing the following protocols will prevent or reduce the discharge of pollutants to stormwater from building and grounds maintenance activities by washing and cleaning up with as little water as possible, following good landscape management practices, preventing and cleaning up spills immediately, keeping debris from entering the storm drains, and maintaining the stormwater collection system.

Approach

Pollution Prevention

- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Encourage proper lawn management and landscaping, including use of native vegetation.
- Encourage use of Integrated Pest Management techniques for pest control.
- Encourage proper onsite recycling of yard trimmings.
- Recycle residual paints, solvents, lumber, and other material as much as possible.

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Suggested Protocols

Pressure Washing of Buildings, Rooftops, and Other Large Objects

- In situations where soaps or detergents are used and the surrounding area is paved, pressure washers must use a waste water collection device that enables collection of wash water and associated solids. A sump pump, wet vacuum or similarly effective device must be used to collect the runoff and loose materials. The collected runoff and solids must be disposed of properly.
- If soaps or detergents are not used, and the surrounding area is paved, wash water runoff does not have to be collected but must be screened. Pressure washers must use filter fabric or some other type of screen on the ground and/or in he catch basin to trap the particles in wash water runoff.
- If you are pressure washing on a grassed area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the grass and not drain to pavement. Ensure that this practice does not kill grass.

Landscaping Activities

- Do not apply any chemicals (insecticide, herbicide, or fertilizer) directly to surface waters, unless the application is approved and permitted by the state.
- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage, or by composting. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures on exposed soils.
- Check irrigation schedules so pesticides will not be washed away and to minimize non-stormwater discharge.

Building Repair, Remodeling, and Construction

- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.

- Use a storm drain cover, filter fabric, or similarly effective runoff control mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a catch basin. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.
- If you need to de-water an excavation site, you may need to filter the water before discharging to a catch basin or off-site. In which case you should direct the water through hay bales and filter fabric or use other sediment filters or traps.
- Store toxic material under cover with secondary containment during precipitation events and when not in use. A cover would include tarps or other temporary cover material.

Mowing, Trimming, and Planting

- Dispose of leaves, sticks, or other collected vegetation as garbage, by composting or at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- Use mulch or other erosion control measures when soils are exposed.
- Place temporarily stockpiled material away from watercourses and drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- Consider an alternative approach when bailing out muddy water; do not put it in the storm drain, pour over landscaped areas.
- Use hand or mechanical weeding where practical.

Fertilizer and Pesticide Management

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- Follow manufacturers' recommendations and label directions. Pesticides must never be applied if precipitation is occuring or predicted. Do not apply insecticides within 100 feet of surface waters such as lakes, ponds, wetlands, and streams.
- Use less toxic pesticides that will do the job, whenever possible. Avoid use of copper-based pesticides if possible.
- Do not use pesticides if rain is expected.
- Do not mix or prepare pesticides for application near storm drains.
- Use the minimum amount needed for the job.
- Calibrate fertilizer distributors to avoid excessive application.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.

- Apply pesticides only when wind speeds are low.
- Work fertilizers into the soil rather than dumping or broadcasting them onto the surface.
- Irrigate slowly to prevent runoff and then only as much as is needed.
- Clean pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Dispose of empty pesticide containers according to the instructions on the container label.
- Use up the pesticides. Rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

Inspection

- Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.

Training

- Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution.
- Train employees and contractors in proper techniques for spill containment and cleanup.
- Be sure the frequency of training takes into account the complexity of the operations and the nature of the staff.

Spill Response and Prevention

- Refer to SC-11, Spill Prevention, Control & Cleanup
- Keep your Spill Prevention Control and countermeasure (SPCC) plan up-to-date, and implement accordingly.
- Have spill cleanup materials readily available and in a known location.
- Cleanup spills immediately and use dry methods if possible.
- Properly dispose of spill cleanup material.

Other Considerations

- Alternative pest/weed controls may not be available, suitable, or effective in many cases.

Requirements

Costs

- Overall costs should be low in comparison to other BMPs.

Maintenance

- Sweep paved areas regularly to collect loose particles, and wipe up spills with rags and other absorbent material immediately, do not hose down the area to a storm drain.

Supplemental Information

Further Detail of the BMP

Fire Sprinkler Line Flushing

Building fire sprinkler line flushing may be a source of non-stormwater runoff pollution. The water entering the system is usually potable water though in some areas it may be non-potable reclaimed wastewater. There are subsequent factors that may drastically reduce the quality of the water in such systems. Black iron pipe is usually used since it is cheaper than potable piping but it is subject to rusting and results in lower quality water. Initially the black iron pipe has an oil coating to protect it from rusting between manufacture and installation; this will contaminate the water from the first flush but not from subsequent flushes. Nitrates, poly-phosphates and other corrosion inhibitors, as well as fire suppressants and antifreeze may be added to the sprinkler water system. Water generally remains in the sprinkler system a long time, typically a year, between flushes and may accumulate iron, manganese, lead, copper, nickel and zinc. The water generally becomes anoxic and contains living and dead bacteria and breakdown products from chlorination. This may result in a significant BOD problem and the water often smells. Consequently dispose fire sprinkler line flush water into the sanitary sewer. Do not allow discharge to storm drain or infiltration due to potential high levels of pollutants in fire sprinkler line water.

References and Resources

California's Nonpoint Source Program Plan http://www.swrcb.ca.gov/nps/index.html

King County - ftp://dnr.metrokc.gov/wlr/dss/spcm/Chapter%203.PDF

Orange County Stormwater Program
http://www.ocwatersheds.com/StormWater/swp_introduction.asp

Mobile Cleaners Pilot Program: Final Report. 1997. Bay Area Stormwater Management Agencies Association (BASSMA) http://www.basmaa.org/

Pollution from Surface Cleaning Folder. 1996. Bay Area Stormwater Management Agencies Association (BASMAA) http://www.basmaa.org/

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Program (URMP) -
http://www.projectcleanwater.org/pdf/Model%20Program%20Municipal%20Facilities.pdf

Appendix 13

Preliminary Drainage Hydrology Report

PRELIMINARY
HYDROLOGY REPORT

FOR

WILDOMAR CROSSINGS MIXED-USE PROJECT

LOCATED AT

CLINTON KEITH ROAD AND WILDOMAR TRAIL
WILDOMAR, CALIFORNIA

Prepared for

SAGE INVESTCO, LLC
3837 Birch Street
Newport Beach, CA 92660
Contact: Ralph W. Deppisch

Prepared By:

DRC ENGINEERING, INC.
6840 Indiana Ave, Suite 215
Riverside, CA 92506
(714) 685-6860 x307, Ronald Sklepko, P.E.

DRC Project No. 21-994

April 2, 2022

TABLE OF CONTENTS

TITLE:		PAGE
SECTION I	INTRODUCTION	3
SECTION II	METHODOLOGY	3
SECTION III	PROJECT DISCUSSION	3 - 5

- Existing Condition
- Proposed Condition
- Hydromodification Mitigation
- Conclusion

List of Technical appendices

Technical Appendix A	***Vicinity Map and Drainage Criteria***
Technical Appendix B	***Rational Method Analysis Existing Condition***
Technical Appendix C	***Rational Method Analysis Proposed Condition***
Technical Appendix D	***Pipe Hydraulic Calculations***
Technical Appendix E	***Reference Drawings*** - ***As-built Storm Drain Improvement Plans***
Technical Appendix F	***100-year Hydromodification Design*** - ***Unit Hydrograph – Existing*** - ***Unit Hydrograph – Proposed*** - ***Basin Routing Calculation s***
Back Sleeve	***Hydrology Map Existing Condition***
Back Sleeve	***Hydrology Map Proposed Condition***

SECTION I Introduction

This preliminary hydrology report has been prepared for the Wildomar Crossings mixed-use project. The project site is located at the northwest intersection of Clinton Keith Road and Wildomar Trail in the City of Wildomar, County of Riverside, State of California. Refer to the vicinity map in **Technical Appendix A** for location of the project.

SECTION II Methodology

For both the existing and proposed conditions, the peak storm discharges for the drainage areas were calculated using the Riverside County Hydrology Manual. The Rational Method Equation (1978 April), using CivilD computer software package, utilizing rational method was used to calculate the 10-year and 100-year storm events and utilizing the Unit Hydro graph Methodology, was used to determine the on-site existing and proposed runoff values for the site (1,3-,6- and 24-hour duration, 100-year storm event).

The site is situated within hydrologic soils type "D" as identified in the Hydrology Manual. "Apartment" and "commercial" land use types have been used for the proposed disturbed development areas.

SECTION III Project Discussion

The proposed project would consist of demolishing the existing structures and other site improvements and constructing a new mixed-use development. The residential portion of the project is proposed for 4.5 acres of the site and includes 150 apartment units. The commercial portion of the project is proposed for the eastern 4.53 acres of the site and includes a market, shops, and restaurants. The 23,104 SF Sprouts Farmers Market and 4,000 SF attached shops building are located on the north end of the site.

Existing Conditions: The project site encompasses 4 existing parcels, that total approximately 9.1 acres. The western most lot is developed on the southern end with a single-family home and an unoccupied out-structure. The three remaining lots are undeveloped and contain undocumented fill soils. A remnant cement foundation is located near the single-family home. Refer to the "Existing Hydrology Map" in **back sleeve** for an illustration of the existing drainage patterns. Presently, drainage areas A1 and A2 flow southeasterly towards Wildomar Trail. The storm water runoff is picked up by two inlets headwalls with 24" RCP that discharge into the existing 72" RCP RCFC&WCD line 'GG'. The flow will ultimately travel across Clinton Keith Road to a RCFC&WCD regional drainage facility via a double 60-inch RCP storm drain. Drainage area B flows southerly to a sump located just north from Clinton Keith Road. The flow continues across Clinton Keith Road to the RCFC&WCD regional drainage facility in a 24" CMP pipe. Refer to **Appendix E** for the reference as-built plan that define existing drainage facilities and patterns.

EXISTING DRAINAGE SUMMARY			
SUBAREA	**AREA (Ac)**	**Q_{10} (cfs)**	**Q_{100} (cfs)**
A1	1.34	1.99	3.20
A2	0.53	0.93	1.49
A3	7.07	9.96	16.07
TOTAL ON-SITE	**8.94**	**12.88**	**20.76**

The above table summarizes the data and results for the 10-year and 100-year storm event in the existing condition. All calculations can be found in **Appendix B** of this report.

Proposed Conditions: The proposed development will be approximately 90% impervious. The proposed drainage pattern will be consistent with existing condition. Refer to the "Proposed Hydrology Map" in **back sleeve** for an illustration of the proposed drainage patterns. The proposed development can be divided into two drainage areas. Drainage area A comprised of the **Commercial** portion of the project and drainage area B comprised of the **Residential** portion of the project. Both drainage areas will be picked up by a separate backbone storm drain system. The storm water will be treated by four modular wetland biofiltration BMP flow-rate based units and hydrodynamic separators before entering the underground detention chambers (refer to **Basin A** and **Basin B**). Outflow from each underground detention basin will be metered by an outlet control manhole with weir plate and will then discharge in County's Line 'GG', across Clinton Keith Road via a double 60-inch RCP storm drain into the RCFC&WCD regional drainage facility.

The following table summarizes the data and results for the 10-year and 100-year storm event in the proposed condition. All calculations are in **Appendix B** of this report.

PROPOSED DRAINAGE SUMMARY			
SUBAREA	**AREA (Ac)**	**Q_{10} (cfs)**	**Q_{100} (cfs)**
A1	1.47	3.37	5.12
A2	2.93	6.38	9.73
B1	0.45	1.10	1.67
B2	1.22	2.65	4.09
B3	2.76	3.58	8.69
TOTAL ON-SITE**	**8.83 ***	**16.82**	**26.15**

* Areas (negligible compare overall study area) from high point to the right-of-way within proposed driveways are not included in the calculations.

** Total On-site stormwater runoff is based confluence of the Residential and Commercial sites at node 40.

As a result of the Rational Method calculations, the proposed developed condition for the project site produces 16.82 cfs of runoff for the 10-year storm event and 26.15 cfs for the 100-year storm event. This translates to a decrease of 3.94 cfs for the 10-year storm event and 5.39 cfs for the 100-year storm event in comparison to the existing condition.

Hydromodification Mitigation

The project will have two underground detention basins for the purpose of low impact development and hydrologic control. These systems are designed to ensure that the flow duration curve of the post-development drainage management area (DMA) meets the 100-year stormwater increased runoff mitigation for the project site.

Existing Conditions: The existing project site peak runoff rates were determined using the Riverside County Unit Hydrograph Method. Refer to **Appendix F**, the Existing Condition Hydrograph Calculations, section of this report for data used in the calculations. The following table illustrates the runoff rate calculation results for the Existing Conditions analysis. These values are used as the maximum the post-developed discharge rate for the on-site areas.

EXISTING ON-SITE CONDITIONS SUMMARY TABLE

Storm Year	1-Hour	3-Hour	6-Hour	24-Hour
100	25.17 cfs	19.14 cfs	18.00 cfs	8.20 cfs

Proposed Conditions: The proposed site is separated into two (2) distinct drainage areas. Refer to the "Proposed Hydrology Map" in **back sleeve** for an illustration of the proposed drainage patterns. The table below summarizes the on-site outflow for the two drainage areas.

PROPOSED CONDITION ON-SITE OUTFLOW SUMMARY TABLE (100 Year Storm)

Drainage Area	1-Hour	3-Hour	6-Hour	24-Hour
A	15.04 cfs	10.30 cfs	9.67 cfs	4.31 cfs
B	14.48 cfs	10.10 cfs	9.50 cfs	4.23 cfs
Total	29.52 cfs	20.40 cfs	19.17 cfs	8.54 cfs

The following table summarizes the results of the routing of the combined hydrograph (drainage zones A and B) through the individual underground detention system and outlet structure and the algebraic summation with Zone C and off-site street flow rates to achieve a **total post-developed site runoff rate**. Comparing the summed flows, the post-developed total on-site runoff rates have been mitigated to below existing condition rates. Refer to Section 5.0 for detention chamber calculations.

MITIGATED CONDITION ON-SITE OUTFLOW SUMMARY TABLE (100 Year Storm)

	1-Hour	3-Hour	6-Hour	24-Hour
Detention System A	5.79 cfs	5.70 cfs	5.61 cfs	3.90 cfs
Detention System B	5.61 cfs	5.52 cfs	5.42 cfs	3.63 cfs
Total	11.40 cfs	11.22 cfs	11.03 cfs	7.53 cfs

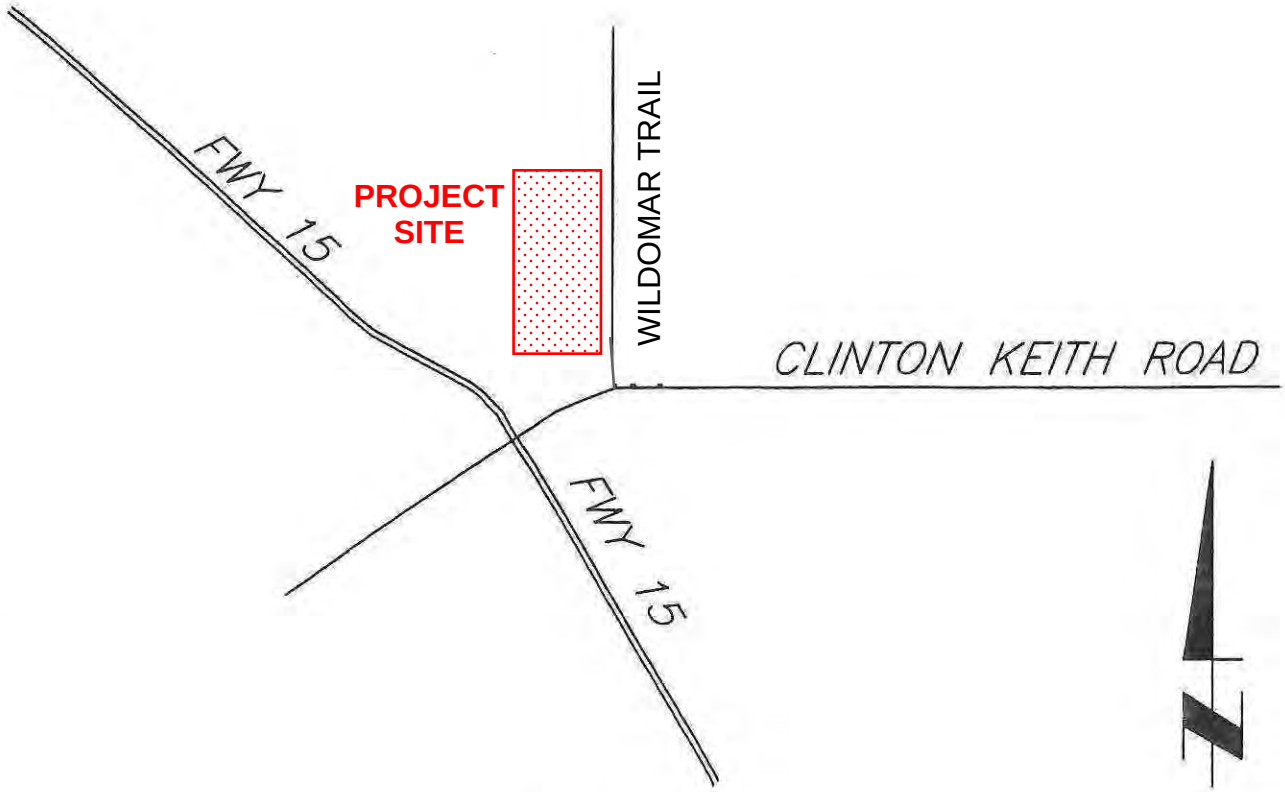
Hydromodification Summary: The proposed project is required to maintain post-developed flows to levels equal to or below existing flow rates. Comparing the tables above, it illustrates that for the 1-hour, 3-hour, 6-hour and 24 hour 100-year storm event, the proposed site total outflow is lower than the existing condition values.

Conclusion

In conclusion, the proposed development will not adversely affect the existing drainage patterns in the area and will provide adequate protection for the proposed on-site improvements and structures for up to the 100-year storm event. The required detention basin volumes will be sized to maintain the post-development discharge rates to the pre-development discharge rates up to the 100-year storm events.

Technical Appendix A

Vicinity Map and Drainage Criteria



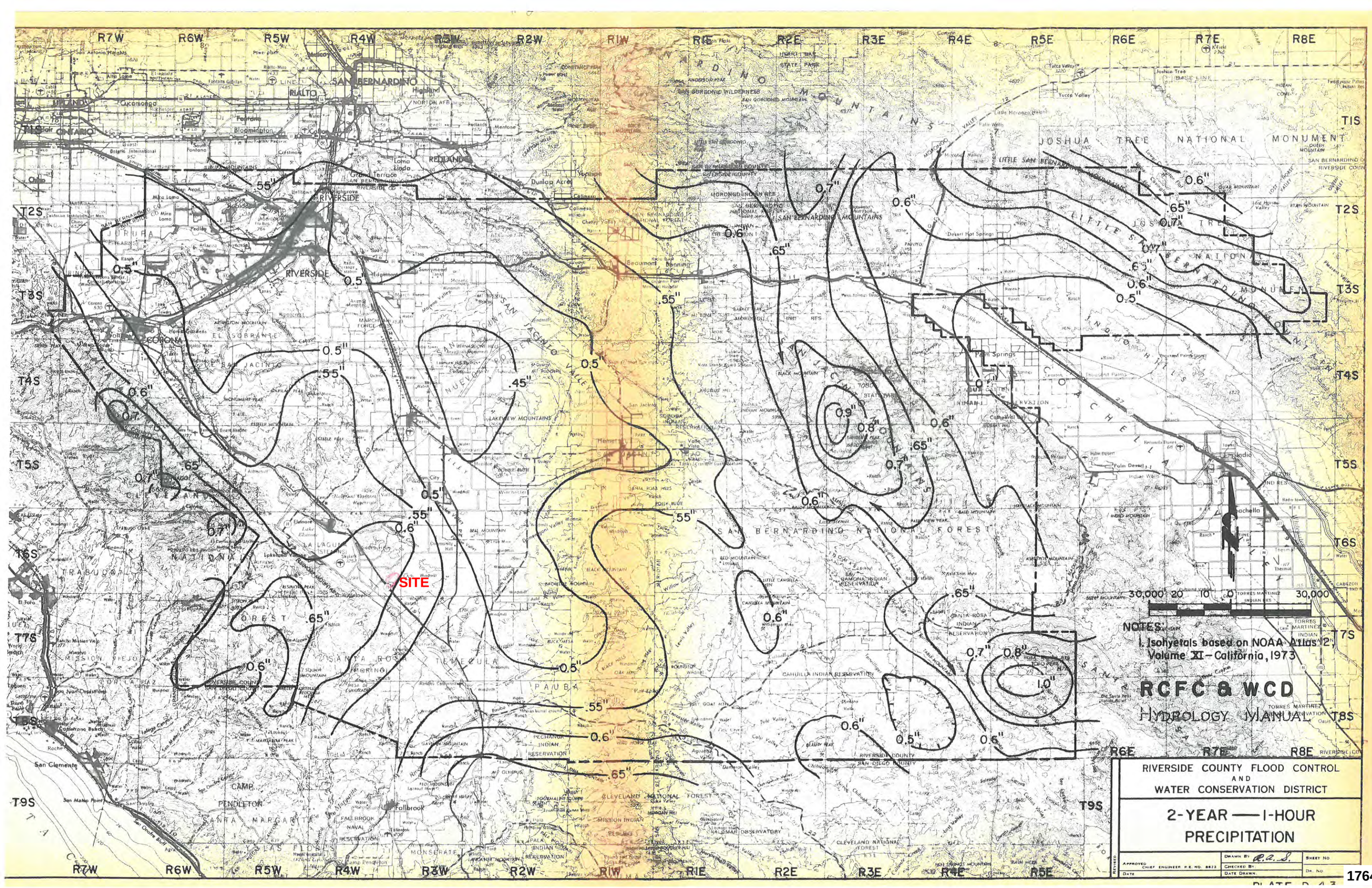
T.6S.,R.3W SEC 31
T.G. COORD: PG 897, F-7/G-7 2006 ED.

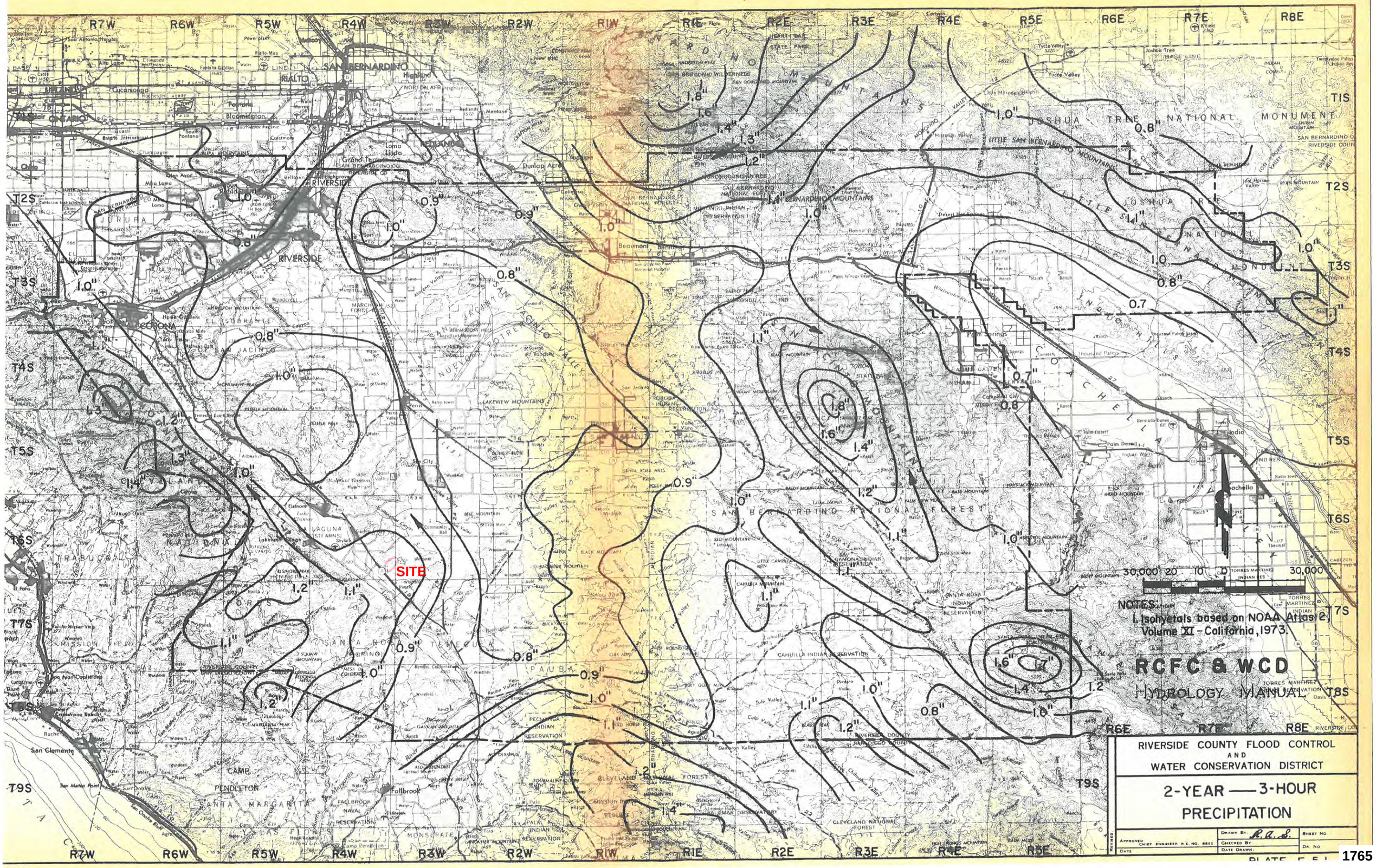
VICINITY MAP

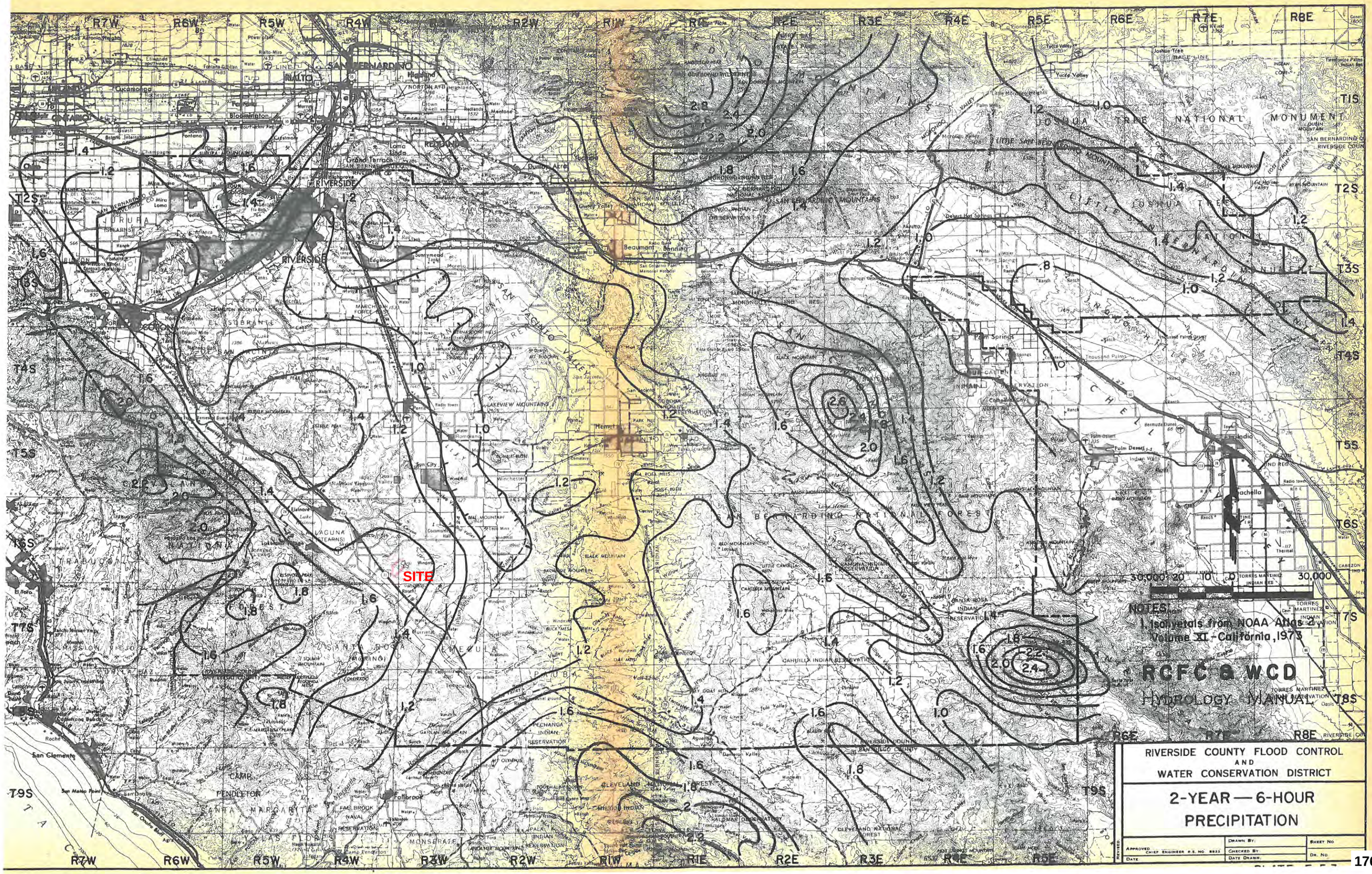
NOT TO SCALE

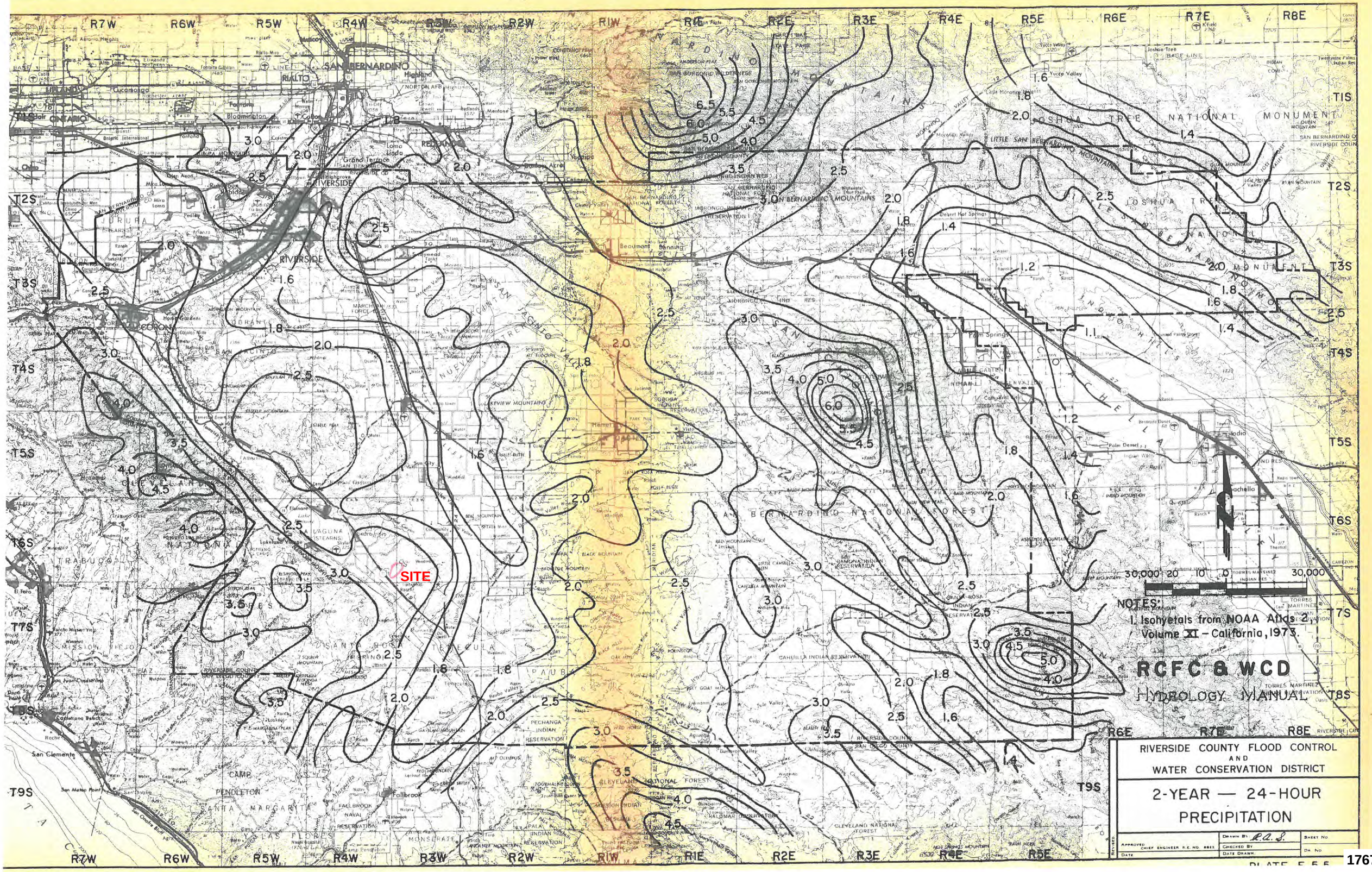
LOCATION MAP

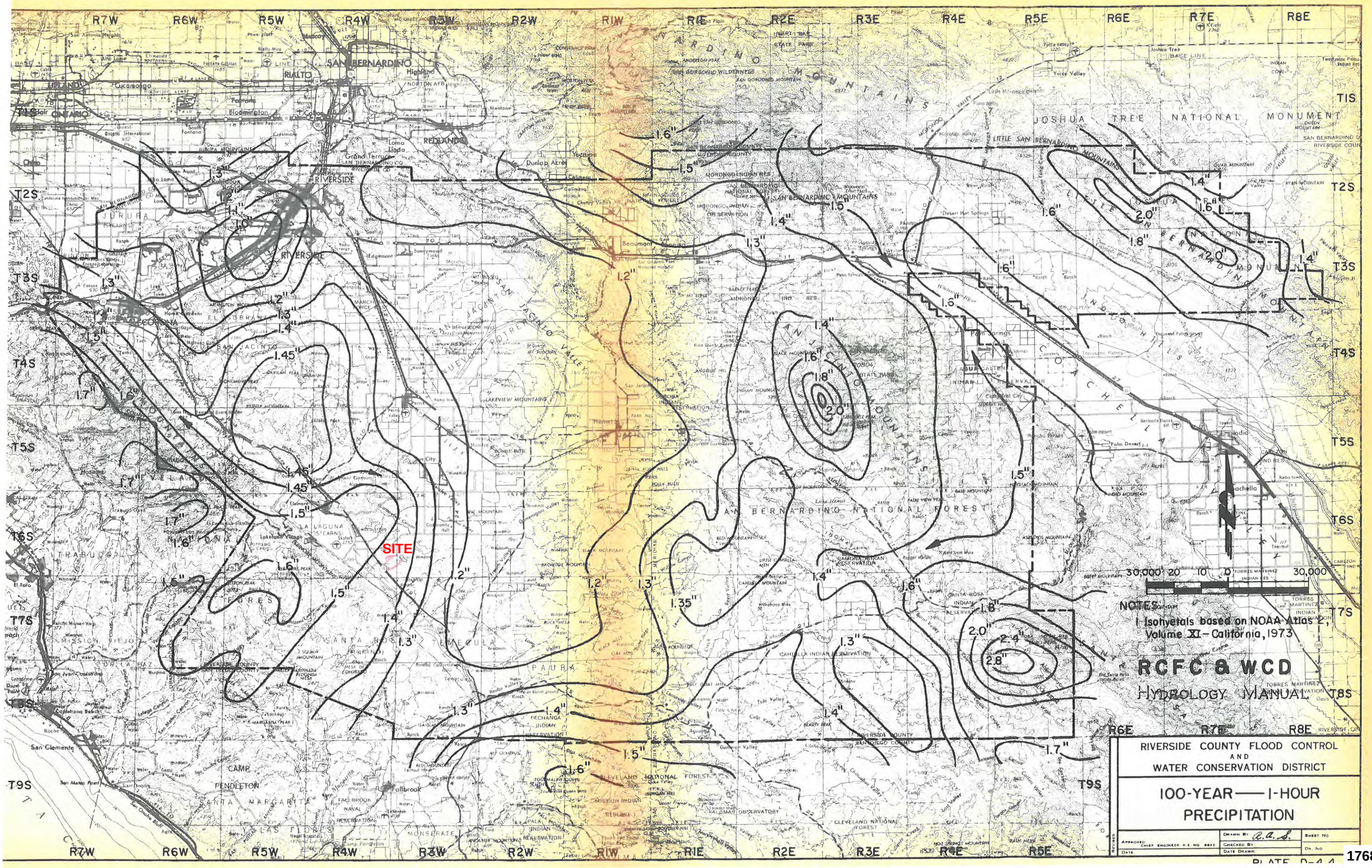



SITE
NOTES
1. Isohyetals based on NOAA Atlas 2, Volume XI – California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 1-HOUR PRECIPITATION
30,000 20 10 0 30,000
R7W R6W R5W R4W R3W R2W R1W R1E R2E R3E R4E R5E R6E R7E R8E
T1S T2S T3S T4S T5S T6S T7S T8S T9S


SITE
NOTES:
1. Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 3-HOUR PRECIPITATION
SAN BERNARDINO MOUNTAINS
SAN JACINTO MOUNTAINS
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO NATIONAL FOREST
SANTA ROSA MOUNTAINS
LITTLE SAN BERNARDINO MOUNTAINS
SAN JACINTO FAULT ZONE
SAN JACINTO VALLEY
SANTA ANA MOUNTAINS
PERRIS VALLEY
LAKEVIEW MOUNTAINS
SANTA ROSA MTNS
SAN JACINTO MTNS
SANTA MARGARITA
SAN MATEO POINT
SAN CLEMENTE
RIVERSIDE
CORONA
RIALTO
SAN BERNARDINO
PENDLETON
CAMP
MARCH AFB
NORTON AFB
SAN JACINTO
HEMET
SAN JACINTO
TEMECULA
PALA INDIAN RESERVATION
PECHANGA INDIAN RESERVATION
CAHUILLA INDIAN RESERVATION
MORONGO INDIAN RESERVATION
SOBOBA INDIAN RESERVATION
AGUA CALIENTE INDIAN RESERVATION
TORRES MARTINEZ INDIAN RESERVATION
CLEVELAND NATIONAL FOREST
SAN BERNARDINO NATIONAL FOREST
SAN BERNARDINO NATIONAL FOREST
SAN BERNARDINO

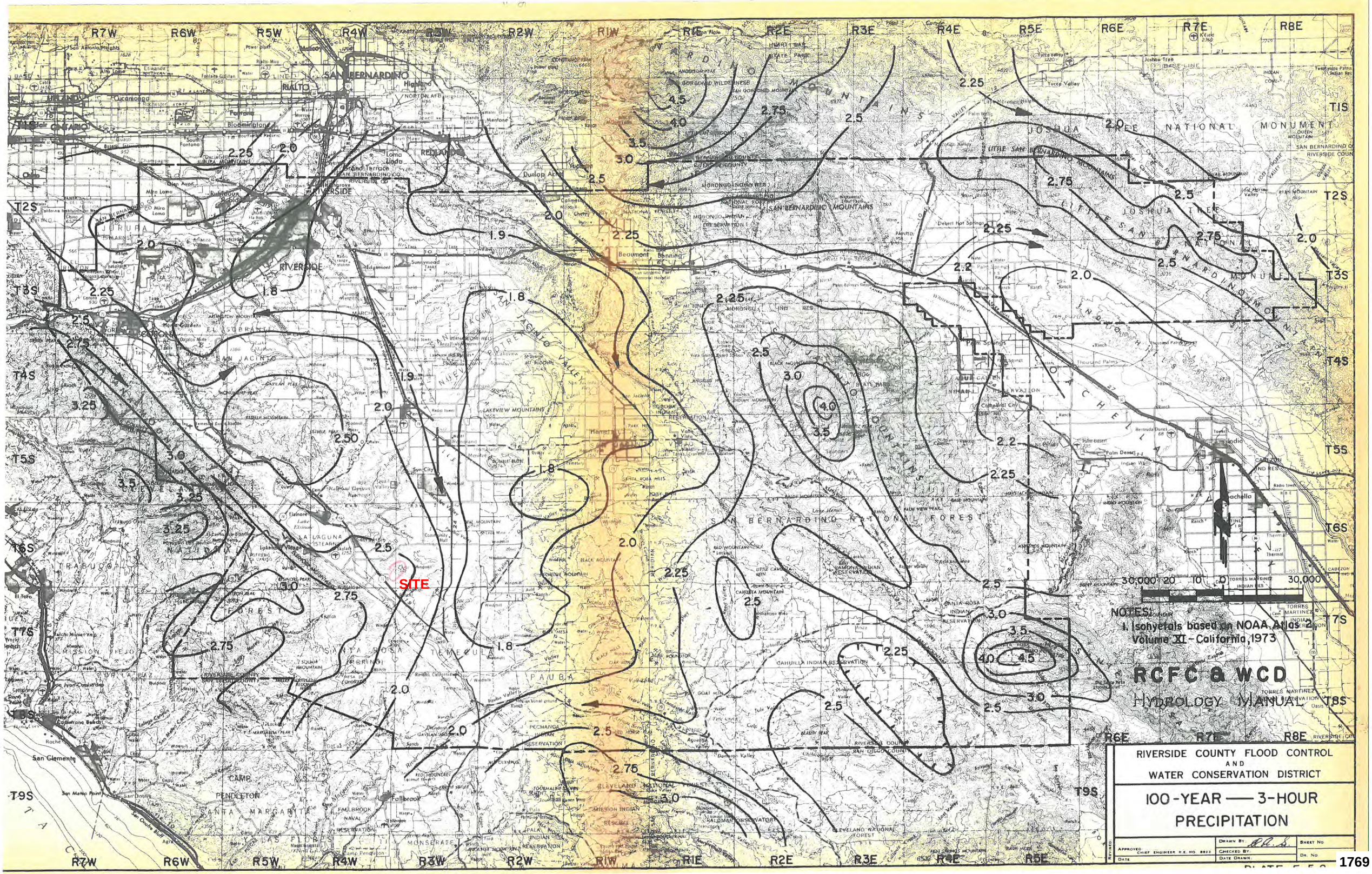

SITE
NOTES
1. Isohyetals from NOAA Atlas 2
Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
2-YEAR — 6-HOUR
PRECIPITATION
SHEET NO.
DR. NO.
DRAWN BY:
CHECKED BY:
DATE DRAWN:
APPROVED CHIEF ENGINEER R.E. NO. 8823
DATE
REVISED
30,000 20 10 0 30,000

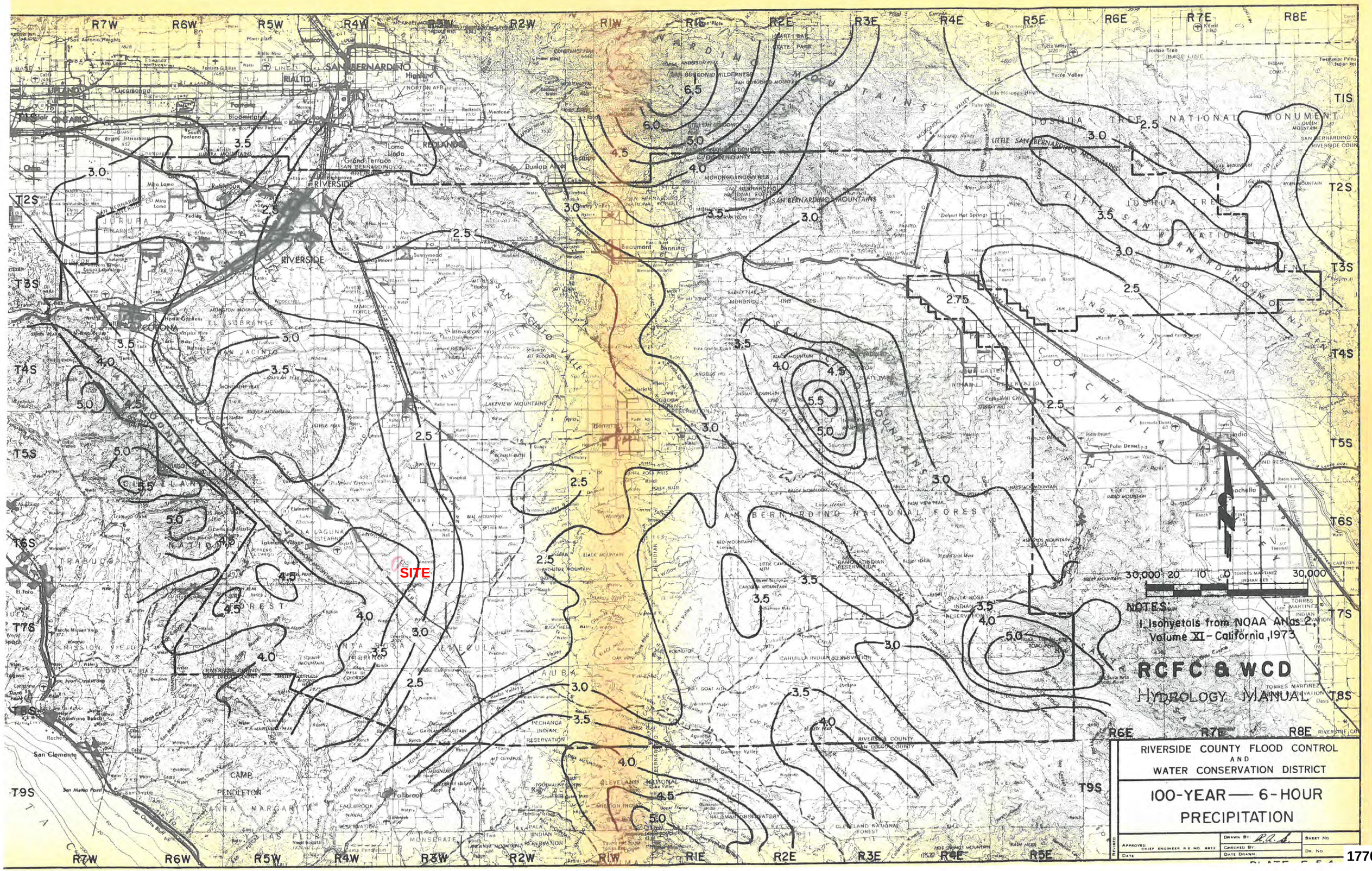

SITE
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI – California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
2-YEAR — 24-HOUR PRECIPITATION
SAN BERNARDINO NATIONAL FOREST
JOSHUA TREE NATIONAL MONUMENT
SAN JACINTO MOUNTAINS
SAN BERNARDINO MOUNTAINS
SANTA ROSA MOUNTAINS
SAN JACINTO VALLEY
PECHANGA INDIAN RESERVATION
SOBOBA INDIAN RESERVATION
AGUA CALIENTE INDIAN RESERVATION
CAHUILLA INDIAN RESERVATION
SAN MANUEL INDIAN RESERVATION
MORONGO INDIAN RESERVATION
SAN GORGONIO WILDERNESS
SAN JACINTO WILDERNESS
SAN GABRIEL MOUNTAINS
SAN JACINTO FAULT ZONE
SAN ANDREAS FAULT ZONE
SAN JACINTO MOUNTAINS
SAN JACINTO VALLEY
SAN JACINTO FAULT ZONE
SAN ANDREAS FAULT ZONE
SAN JACINTO MOUNTAINS
SAN BERNARDINO NATIONAL FOREST



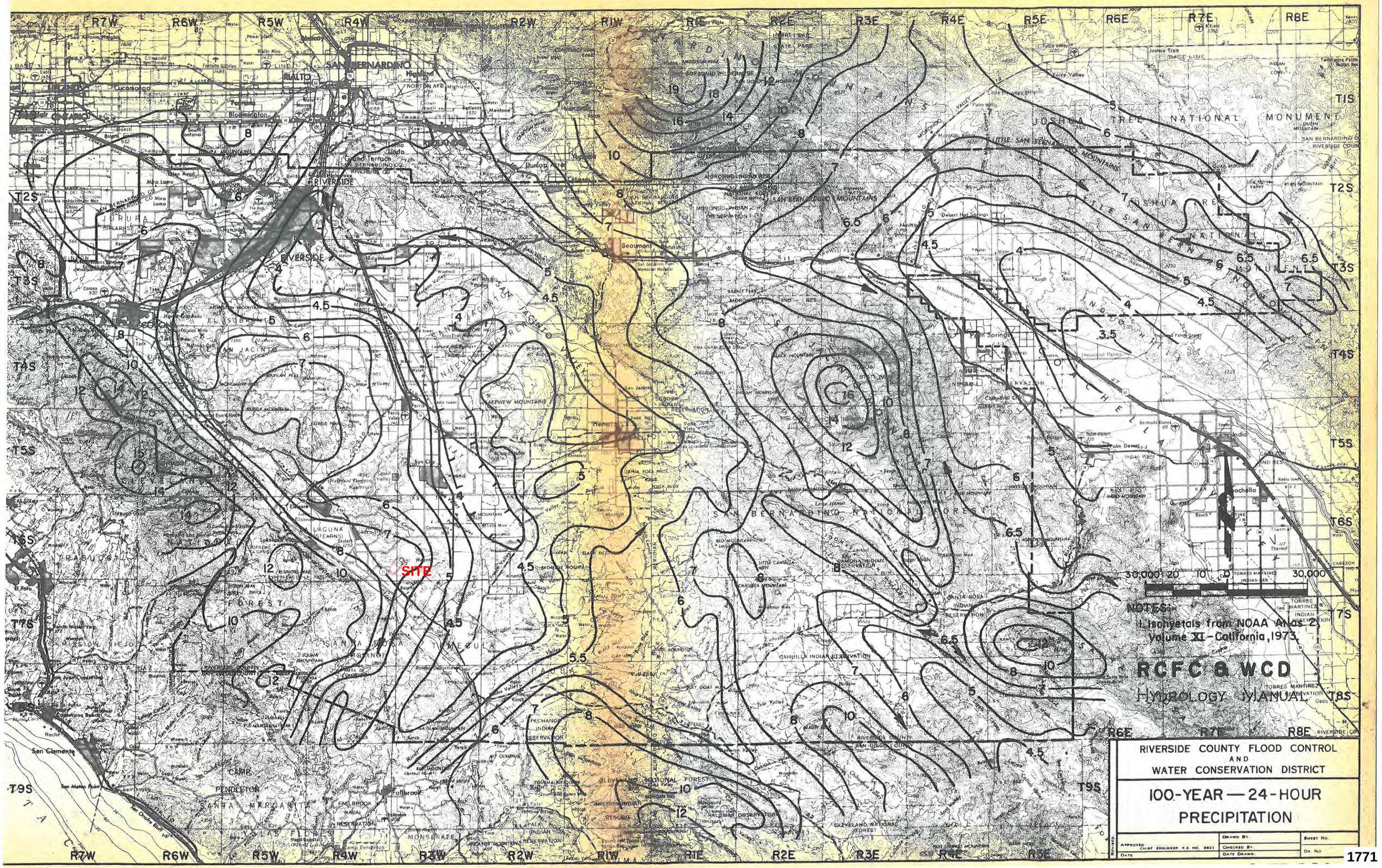
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
SAN BERNARDINO
RIALTO
REDLANDS
RIVERSIDE
CORONA
JOSHUA TREE NATIONAL MONUMENT
SAN BERNARDINO NATIONAL FOREST
SITE
30,000 20 10 0 30,000
NOTES:
1 Isohyetals based on NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 1-HOUR PRECIPITATION

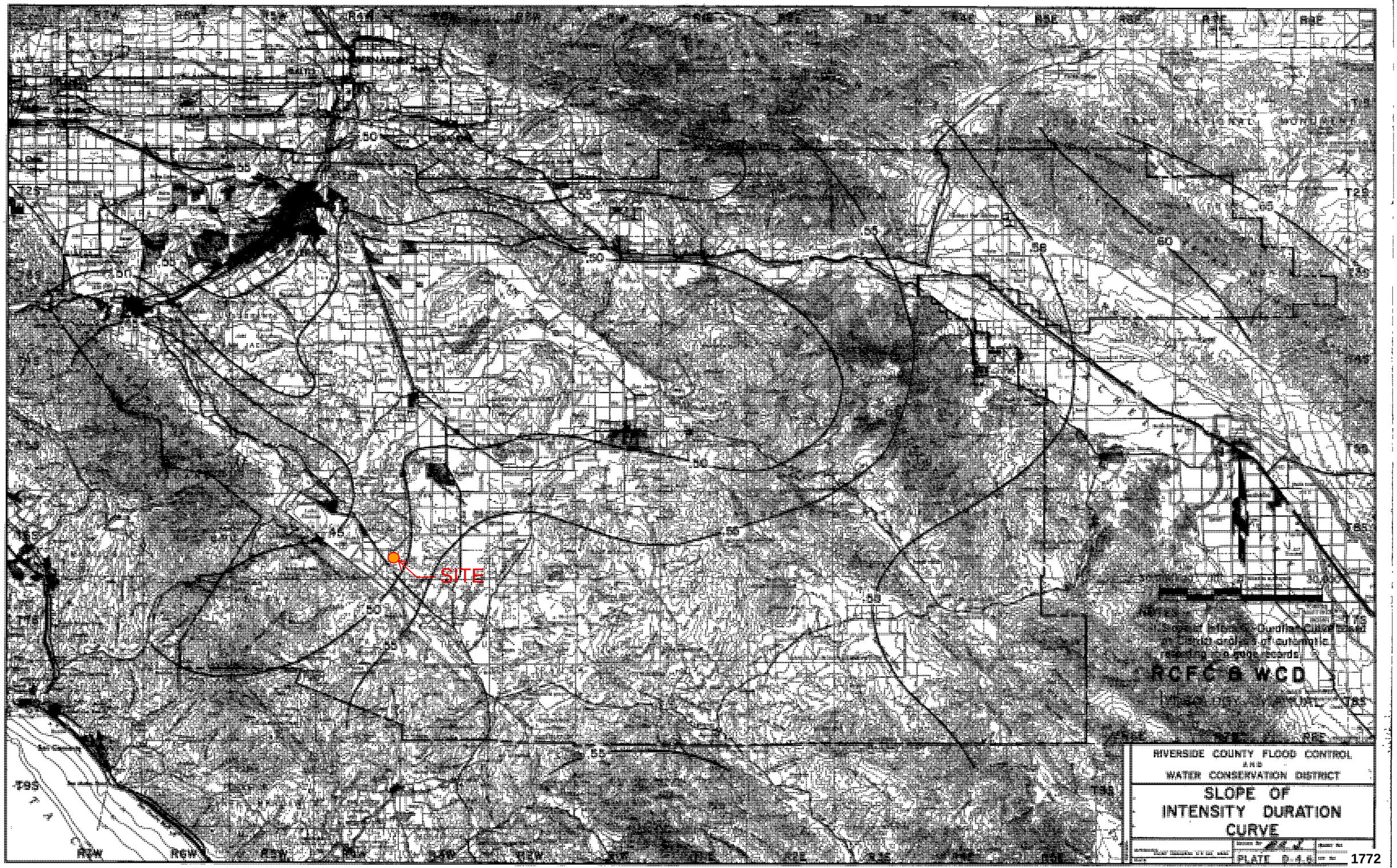
PLATE D-4.4

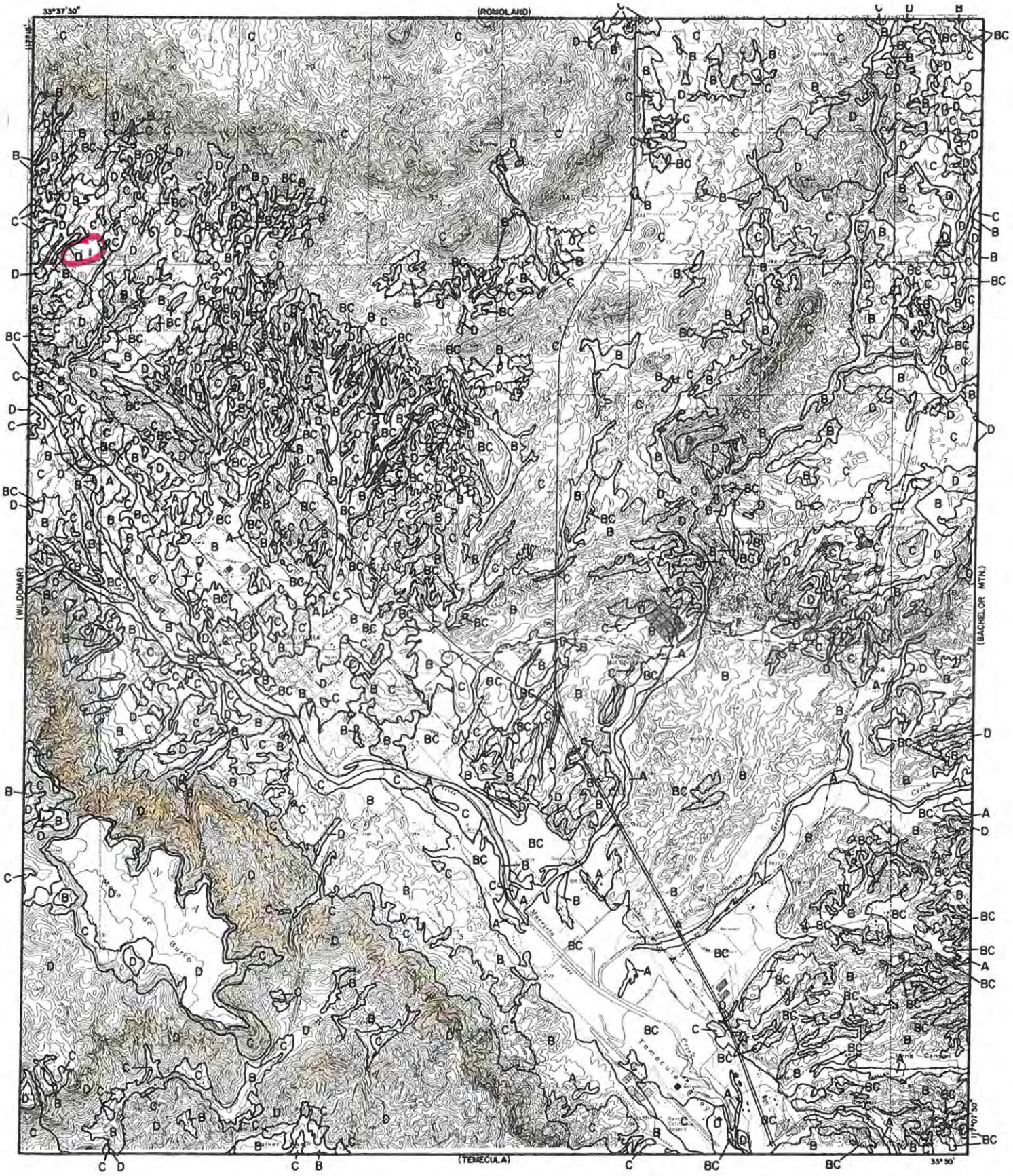

SITE
SAN BERNARDINO MOUNTAINS
SAN JACINTO MOUNTAINS
SAN BERNARDINO NATIONAL FOREST
CLEVELAND NATIONAL FOREST
JOSHUA TREE NATIONAL MONUMENT
SANTA ROSA MOUNTAINS
LITTLE SAN BERNARDINO MOUNTAINS
SAN JACINTO VALLEY
SAN GORGONIO WILDERNESS
SAN JACINTO WILDERNESS
SAN GABRIEL MOUNTAINS
SAN GABRIEL MOUNTAINS NATIONAL MONUMENT
SAN BERNARDINO MOUNTAINS NATIONAL MONUMENT
SAN JACINTO MOUNTAINS NATIONAL MONUMENT
SAN JACINTO MOUNTAINS INDIAN RESERVATION
SAN BERNARDINO MOUNTAINS INDIAN RESERVATION
SAN GORGONIO PASS
MORONGO INDIAN RESERVATION
AGUA CALIENTE INDIAN RESERVATION
CAHUILLA INDIAN RESERVATION
SOBOBA INDIAN RESERVATION
PECHANGA INDIAN RESERVATION
PALA INDIAN RESERVATION
SANTA ROSA INDIAN RESERVATION
RAMONA INDIAN RESERVATION
TORRES MARTINEZ INDIAN RESERVATION
SAN JACINTO PEAK
SAN GORGONIO PEAK
SAN ANDREAS FAULT
SAN JACINTO FAULT
SAN JACINTO VALLEY
SAN TIMOTEO CANYON
SAN JACINTO RIVER
SANTA ANA RIVER
SANTA MARGARITA RIVER
SAN LUIS REY RIVER
SAN DIEGUITO RIVER
SAN JUAN CREEK
SAN MATEO CANYON
SAN ONOFRE CANYON
SAN MATEO POINT
SAN CLEMENTE
CAMP PENDLETON
MARINE CORPS BASE
FALLBROOK NAVAL RESERVATION
NORTON AFB
MARCH AFB
RIVERSIDE
SAN BERNARDINO
RIALTO
REDLANDS
HIGHLAND
LOMA LINDA
MORENO VALLEY
PERRIS
HEMET
SAN JACINTO
BEAUMONT
BANNING
CORONA
NORCO
JURUPA
MIRA LOMA
ONTARIO
CHINO
UPLAND
CUCAMONGA
ETIWANDA
FONTANA
RANCHO CUCAMONGA
ALTA LOMA
RANCHO CUCAMONGA
GRAND TERRACE
COLTON
SLOVER MOUNTAIN
BADLANDS
LAKEVIEW MOUNTAINS
PERRIS VALLEY
MORENO VALLEY
SUNNYMEAD
EDGEMONT
GLEN AVON
RUBIDOUX
DUNLAP ACRES
CRESTMORE
MENTONE
CRAFTON
YUCAIPA
BEAUMONT
CHERRY VALLEY
BANNING
SAN GORGONIO PASS
WHITEWATER
DESERT HOT SPRINGS
PALM SPRINGS
BONNIE BELL
PALM SPRINGS GOLF CLUB
WHITEWATER RIVER
MORONGO WASH
MISSION CREEK
DESERT WILLOW
THOUSAND PALMS
INDIO HILLS
COACHELLA
INDIO
CABAZON
PALM DESERT
INDIAN WELLS
BERMUDA DUNES
TORRES MARTINEZ
YUCCA VALLEY
JOSHUA TREE
TWENTYNINE PALMS
LUCERNE VALLEY
LITTLE MORONGO WASH
PIPES CANYON
GOLDEN VALLEY
HORSE VALLEY
GUNSIGHT MOUNTAIN
QUEEN MOUNTAIN
RYAN MOUNTAIN
GOAT MTN
BLACK MOUNTAIN
LITTLE CAHUILLA MTN
CAHUILLA MOUNTAIN
SANTA ROSA MTS
SAN JACINTO PEAK
SAN GORGONIO PEAK
SAN JACINTO MTS
SAN GORGONIO MTS
SAN BERNARDINO MTS
SAN GABRIEL MTS
SAN JACINTO VALLEY
SAN TIMOTEO CANYON
SAN JACINTO RIVER
SANTA ANA RIVER
SANTA MARGARITA RIVER
SAN LUIS REY RIVER
SAN DIEGUITO RIVER
SAN JUAN CREEK
SAN MATEO CANYON
SAN ONOFRE CANYON
SAN MATEO POINT
SAN CLEMENTE
CAMP PENDLETON
MARINE CORPS BASE
FALLBROOK NAVAL RESERVATION
NORTON AFB
MARCH AFB
RIVERSIDE
SAN BERNARDINO
RIALTO
REDLANDS
HIGHLAND
LOMA LINDA
MORENO VALLEY
PERRIS
HEMET
SAN JACINTO
BEAUMONT
BANNING
CORONA
NORCO
JURUPA
MIRA LOMA
ONTARIO
CHINO
UPLAND
CUCAMONGA
ETIWANDA
FONTANA
RANCHO CUCAMONGA
ALTA LOMA
RANCHO CUCAMONGA
GRAND TERRACE
COLTON
SLOVER MOUNTAIN
BADLANDS
LAKEVIEW MOUNTAINS
PERRIS VALLEY
MORENO VALLEY
SUNNYMEAD
EDGEMONT
GLEN AVON
RUBIDOUX
DUNLAP ACRES
CRESTMORE
MENTONE
CRAFTON
YUCAIPA
BEAUMONT
CHERRY VALLEY
BANNING
SAN GORGONIO PASS
WHITEWATER
DESERT HOT SPRINGS
PALM SPRINGS
BONNIE BELL
PALM SPRINGS GOLF CLUB
WHITEWATER RIVER
MORONGO WASH
MISSION CREEK
DESERT WILLOW
THOUSAND PALMS
INDIO HILLS
COACHELLA
INDIO
CABAZON
PALM DESERT
INDIAN WELLS
BERMUDA DUNES
TORRES MARTINEZ
YUCCA VALLEY
JOSHUA TREE
TWENTYNINE PALMS
LUCERNE VALLEY
LITTLE MORONGO WASH
PIPES CANYON
GOLDEN VALLEY
HORSE VALLEY
GUNSIGHT MOUNTAIN
QUEEN MOUNTAIN
RYAN MOUNTAIN
GOAT MTN
BLACK MOUNTAIN
LITTLE CAHUILLA MTN
CAHUILLA MOUNTAIN
SANTA ROSA MTS
R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T1S
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
4.5
4.0
3.5
3.25
3.0
2.75
2.5
2.25
2.2
2.0
1.9
1.8
2.50
30,000 20 10 0 30,000
NOTES:
1. Isohyetals based on NOAA Atlas 2 Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 3-HOUR PRECIPITATION
APPROVED CHIEF ENGINEER R.E. NO. 6822
DATE
DRAWN BY
CHECKED BY
DATE DRAWN
SHEET NO
DR. NO
REVISED
PLATE E-5.2



SITE
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 6-HOUR PRECIPITATION
30,000 20 10 0 30,000
SAN BERNARDINO
RIVERSIDE
Beaumont
Banning
Palm Springs
Indio
Coachella
Fallbrook
San Clemente


R7W
R6W
R5W
R4W
R3W
R2W
R1W
R1E
R2E
R3E
R4E
R5E
R6E
R7E
R8E
T2S
T3S
T4S
T5S
T6S
T7S
T8S
T9S
SAN BERNARDINO
RIVERSIDE
RIALTO
Beaumont
Banning
Hemet
San Jacinto
Perris
Corona
Moreno Valley
Temecula
Murrieta
Lake Elsinore
Canyon Lake
Menifee
Wildomar
Sun City
Homeland
Winchester
Romoldo
Valle Vista
Cherry Valley
Calimesa
Yucaipa
Redlands
Loma Linda
Grand Terrace
Colton
Rialto
Fontana
Rancho Cucamonga
Ontario
Upland
Mira Loma
Jurupa
Norco
Eastvale
Corona
Home Gardens
El Sobrante
Mt. Jacinto
Lake Mathews
Woodcrest
Edgemont
Highgrove
Box Springs
Riverside
Palm Springs
Cathedral City
Rancho Mirage
Palm Desert
Indian Wells
La Quinta
Indio
Coachella
Thermal
Mecca
Oasis
Joshua Tree
Yucca Valley
Twentynine Palms
Desert Hot Springs
North Palm Springs
Whitewater
Morongo Valley
Banning
Cabazon
Torres Martinez
Indian Reservation
Twin Peaks
Quail Mountain
Ryan Mountain
Indian Cove
Queen Mountain
Little San Bernardino Mountains
San Jacinto Mountains
San Bernardino National Forest
Joshua Tree National Monument
Santa Rosa Mountains
Orocopia Mountains
Chuckwalla Mountains
Eagle Mountains
Pinto Mountains
Morongo Indian Reservation
Santa Rosa Indian Reservation
Cahuilla Indian Reservation
Pechanga Indian Reservation
Soboba Indian Reservation
Agua Caliente Indian Reservation
Pala Indian Reservation
Rincon Indian Reservation
Los Coyotes Indian Reservation
Santa Ana Mountains
Elsinore Mountains
Lakeview Mountains
Bedford Peak
Santa Rosa Hills
Domenigoni Valley
Cleveland National Forest
Camp Pendleton
Fallbrook
Fallbrook Naval Reservation
Santa Margarita
San Clemente
San Mateo Point
San Onofre Bluff
Las Flores
Trabuco
Mission Viejo
Laguna Beach
Laguna Canyon
Aliso Creek
Saddleback Mountain
Santiago Peak
Modjeska Peak
Pacific Ocean
SITE
30,000 20 10 0 30,000
NOTES:
1. Isohyetals from NOAA Atlas 2, Volume XI - California, 1973.
RCFC & WCD
HYDROLOGY MANUAL
RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
100-YEAR — 24-HOUR PRECIPITATION
APPROVED CHIEF ENGINEER R.E. NO. 6822
DATE
DRAWN BY:
CHECKED BY:
DATE DRAWN:
SHEET No.
DR. No
REVISED


SITE
RIVERSIDE COUNTY FLOOD CONTROL
AND
WATER CONSERVATION DISTRICT
SLOPE OF
INTENSITY DURATION
CURVE
PLATE D-4.6
RCFC & WCD



LEGEND

—— SOILS GROUP BOUNDARY

A SOILS GROUP DESIGNATION

RCFC & WCD

HYDROLOGY MANUAL

0 FEET 5000

HYDROLOGIC SOILS GROUP MAP FOR MURRIETA

PLATE C-1.52

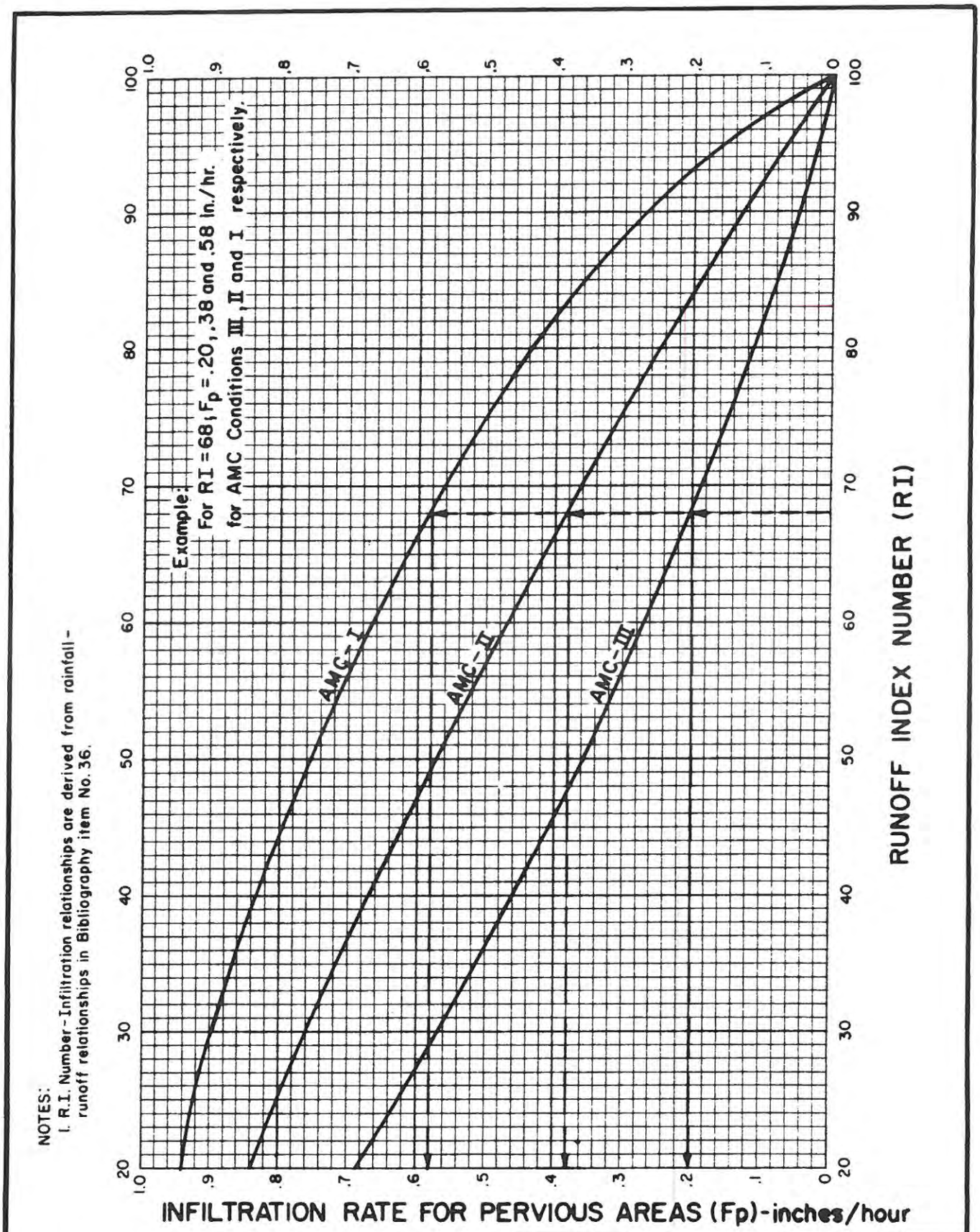
RUNOFF INDEX NUMBERS OF HYDROLOGIC SOIL-COVER COMPLEXES FOR PERVIOUS AREAS-AMC II

Cover Type (3)	Quality of Cover (2)	Soil Group A	B	C	D
NATURAL COVERS -					
Barren (Rockland, eroded and graded land)		78	86	91	93
Chaparrel, Broadleaf (Manzonita, ceanothus and scrub oak)	Poor	53	70	80	85
	Fair	40	63	75	81
	Good	31	57	71	78
Chaparrel, Narrowleaf (Chamise and redshank)	Poor	71	82	88	91
	Fair	55	72	81	86
Grass, Annual or Perennial	Poor	67	78	86	89
	Fair	50	69	79	84
	Good	38	61	74	80
Meadows or Cienegas (Areas with seasonally high water table, principal vegetation is sod forming grass)	Poor	63	77	85	88
	Fair	51	70	80	84
	Good	30	58	72	78
Open Brush (Soft wood shrubs - buckwheat, sage, etc.)	Poor	62	76	84	88
	Fair	46	66	77	83
	Good	41	63	75	81
Woodland (Coniferous or broadleaf trees predominate. Canopy density is at least 50 percent)	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	28	55	70	77
Woodland, Grass (Coniferous or broadleaf trees with canopy density from 20 to 50 percent)	Poor	57	73	82	86
	Fair	44	65	77	82
	Good	33	58	72	79
URBAN COVERS -					
Residential or Commercial Landscaping (Lawn, shrubs, etc.)	Good	32	56	69	75
Turf (Irrigated and mowed grass)	Poor	58	74	83	87
	Fair	44	65	77	82
	Good	33	58	72	79
AGRICULTURAL COVERS -					
Fallow (Land plowed but not tilled or seeded)		76	85	90	92

RCFC & WCD
HYDROLOGY MANUAL

RUNOFF INDEX NUMBERS FOR PERVIOUS AREAS

PLATE E-6.1 (1 of 2)



NOTES:
1. R.I. Number - Infiltration relationships are derived from rainfall - runoff relationships in Bibliography item No. 36.

RCFC & WCD

HYDROLOGY MANUAL

INFILTRATION RATE FOR PERVIOUS AREAS VERSUS RUNOFF INDEX NUMBERS

PLATE E-6.2

Technical Appendix B

Rational Method Analysis
Existing Condition

```
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                    (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2015 Advanced Engineering Software (aes)
                    (Rational Tabling Version 22.0)
                Release Date: 07/01/2015  License ID 1510

                        Analysis prepared by:

                        DRC Engineering, Inc.
                  160 South Old Springs Road, Suite 210
                         Anaheim Hills, CA 92808
                              714-685-6860

 ************************* DESCRIPTION OF STUDY *************************
* 21-994 WILDOMAR TRAIL MIXED-USE PROJECT                                *
* EXISTING CONDITION                                                     *
*                                                                        *
 ************************************************************************

  FILE NAME: 21994E.DAT
  TIME/DATE OF STUDY: 10:07 11/24/2021
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =   10.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.600
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.450
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =   10.00   1-HOUR INTENSITY(INCH/HOUR) =   0.959
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

******************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     20.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   535.00
  UPSTREAM ELEVATION(FEET) =   1341.00
  DOWNSTREAM ELEVATION(FEET) =   1327.00
  ELEVATION DIFFERENCE(FEET) =     14.00
  TC = 0.533*[(  535.00**3)/(    14.00)]**.2 =   13.620
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.013
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7372
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      1.99
  TOTAL AREA(ACRES) =      1.34   TOTAL RUNOFF(CFS) =      1.99
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     15.00 TO NODE     25.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   370.00
  UPSTREAM ELEVATION(FEET) =   1343.00
  DOWNSTREAM ELEVATION(FEET) =   1323.00
  ELEVATION DIFFERENCE(FEET) =     20.00
  TC = 0.533*[(  370.00**3)/(    20.00)]**.2 =   10.165
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.330
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7558
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      0.93
  TOTAL AREA(ACRES) =      0.53   TOTAL RUNOFF(CFS) =      0.93

****************************************************************************
  FLOW PROCESS FROM NODE     17.00 TO NODE     27.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   750.00
  UPSTREAM ELEVATION(FEET) =   1350.00
  DOWNSTREAM ELEVATION(FEET) =   1323.70
  ELEVATION DIFFERENCE(FEET) =     26.30
  TC = 0.533*[(  750.00**3)/(    26.30)]**.2 =   14.704
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.938
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7321
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      9.96
  TOTAL AREA(ACRES) =      7.02   TOTAL RUNOFF(CFS) =      9.96
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

```
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                    (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2015 Advanced Engineering Software (aes)
                    (Rational Tabling Version 22.0)
                Release Date: 07/01/2015  License ID 1510

                        Analysis prepared by:

                        DRC Engineering, Inc.
                  160 South Old Springs Road, Suite 210
                         Anaheim Hills, CA 92808
                              714-685-6860

 ************************* DESCRIPTION OF STUDY *************************
* 21-994 WILDOMAR TRAIL MIXED-USE PROJECT                                *
* EXISTING CONDITION                                                     *
*                                                                        *
 ************************************************************************

  FILE NAME: 21994E.DAT
  TIME/DATE OF STUDY: 10:09 11/24/2021
------------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =  100.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.600
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.450
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =  100.00   1-HOUR INTENSITY(INCH/HOUR) =   1.450
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  ===== ====== ===== =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

******************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     20.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   535.00
  UPSTREAM ELEVATION(FEET) =   1341.00
  DOWNSTREAM ELEVATION(FEET) =   1327.00
  ELEVATION DIFFERENCE(FEET) =     14.00
  TC = 0.533*[(  535.00**3)/(    14.00)]**.2 =   13.620
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.043
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7853
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      3.20
  TOTAL AREA(ACRES) =      1.34   TOTAL RUNOFF(CFS) =      3.20
```

```
****************************************************************************
  FLOW PROCESS FROM NODE     15.00 TO NODE     25.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   370.00
  UPSTREAM ELEVATION(FEET) =   1343.00
  DOWNSTREAM ELEVATION(FEET) =   1323.00
  ELEVATION DIFFERENCE(FEET) =     20.00
  TC = 0.533*[(  370.00**3)/(    20.00)]**.2 =   10.165
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.523
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7992
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      1.49
  TOTAL AREA(ACRES) =      0.53   TOTAL RUNOFF(CFS) =      1.49

****************************************************************************
  FLOW PROCESS FROM NODE     17.00 TO NODE     27.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS: UNDEVELOPED WITH POOR COVER
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   750.00
  UPSTREAM ELEVATION(FEET) =   1350.00
  DOWNSTREAM ELEVATION(FEET) =   1323.70
  ELEVATION DIFFERENCE(FEET) =     26.30
  TC = 0.533*[(  750.00**3)/(    26.30)]**.2 =   14.704
   100 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.929
  UNDEVELOPED WATERSHED RUNOFF COEFFICIENT = .7814
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =     16.07
  TOTAL AREA(ACRES) =      7.02   TOTAL RUNOFF(CFS) =     16.07
============================================================================
============================================================================
  END OF RATIONAL METHOD ANALYSIS
```

Technical Appendix C

Rational Method Analysis
Proposed Condition

```
******************************************************************************
            RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM BASED ON
        RIVERSIDE COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT
                     (RCFC&WCD)  1978 HYDROLOGY MANUAL
         (c) Copyright 1982-2015 Advanced Engineering Software (aes)
                     (Rational Tabling Version 22.0)
                  Release Date: 07/01/2015  License ID 1510

                           Analysis prepared by:

                           DRC Engineering, Inc.
                  160 South Old Springs Road, Suite 210
                         Anaheim Hills, CA 92808
                              714-685-6860

 ************************* DESCRIPTION OF STUDY *************************
* WILDOMAR TRAIL MIXED-USE PROJECT                                      *
* PROPOSED CONDITION                                                    *
*                                                                       *
 ************************************************************************

  FILE NAME: 21994P.DAT
  TIME/DATE OF STUDY: 15:31 04/19/2022
------------------------------------------------------------------------
  USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:
------------------------------------------------------------------------
  USER SPECIFIED STORM EVENT(YEAR) =   10.00
  SPECIFIED MINIMUM PIPE SIZE(INCH) =  12.00
  SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.95
  2-YEAR, 1-HOUR PRECIPITATION(INCH) =  0.600
  100-YEAR, 1-HOUR PRECIPITATION(INCH) =  1.450
  COMPUTED RAINFALL INTENSITY DATA:
  STORM EVENT =   10.00   1-HOUR INTENSITY(INCH/HOUR) =   0.959
  SLOPE OF INTENSITY DURATION CURVE = 0.5000
  RCFC&WCD HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD
  NOTE: COMPUTE CONFLUENCE VALUES ACCORDING TO RCFC&WCD HYDROLOGY MANUAL
        AND IGNORE OTHER CONFLUENCE COMBINATIONS FOR DOWNSTREAM ANALYSES
  *USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL*
     HALF-  CROWN TO   STREET-CROSSFALL:   CURB  GUTTER-GEOMETRIES:  MANNING
     WIDTH  CROSSFALL  IN-  / OUT-/PARK-  HEIGHT  WIDTH  LIP   HIKE  FACTOR
NO.   (FT)     (FT)    SIDE / SIDE/ WAY    (FT)    (FT)  (FT)  (FT)    (n)
===  =====  =========  =================  ======  =====  ====== =====  =======
  1   30.0     20.0    0.018/0.018/0.020   0.67    2.00 0.0313 0.167 0.0150

  GLOBAL STREET FLOW-DEPTH CONSTRAINTS:
    1. Relative Flow-Depth =  0.00 FEET
       as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
    2. (Depth)*(Velocity) Constraint =  6.0 (FT*FT/S)
  *SIZE PIPE WITH A FLOW CAPACITY GREATER THAN
   OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.*

******************************************************************************
  FLOW PROCESS FROM NODE     10.00 TO NODE     20.00 IS CODE =  21
------------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
==============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS COMMERCIAL
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   390.00
  UPSTREAM ELEVATION(FEET) =   1340.50
  DOWNSTREAM ELEVATION(FEET) =   1336.50
  ELEVATION DIFFERENCE(FEET) =      4.00
  TC = 0.303*[(  390.00**3)/(     4.00)]**.2 =    8.238
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.589
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8868
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      3.37
  TOTAL AREA(ACRES) =      1.47   TOTAL RUNOFF(CFS) =      3.37

******************************************************************************
  FLOW PROCESS FROM NODE     20.00 TO NODE     30.00 IS CODE =  31
------------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
==============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1333.50  DOWNSTREAM(FEET) =  1323.00
  FLOW LENGTH(FEET) =   405.00   MANNING'S N =  0.013
```

```
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   6.7 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.45
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.37
  PIPE TRAVEL TIME(MIN.) =   0.91    Tc(MIN.) =    9.14
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     30.00 =     795.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     30.00 TO NODE     30.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.457
  COMMERCIAL DEVELOPMENT RUNOFF COEFFICIENT = .8862
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    2.93   SUBAREA RUNOFF(CFS) =    6.38
  TOTAL AREA(ACRES) =        4.4   TOTAL RUNOFF(CFS) =       9.75
  TC(MIN.) =    9.14

****************************************************************************
  FLOW PROCESS FROM NODE     30.00 TO NODE     40.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1323.00  DOWNSTREAM(FEET) =  1320.40
  FLOW LENGTH(FEET) =   200.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  18.0 INCH PIPE IS  12.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.39
  ESTIMATED PIPE DIAMETER(INCH) =  18.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       9.75
  PIPE TRAVEL TIME(MIN.) =   0.45    Tc(MIN.) =    9.59
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     40.00 =     995.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.00 TO NODE     40.00 IS CODE =  10
----------------------------------------------------------------------------
  >>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<
============================================================================

****************************************************************************
  FLOW PROCESS FROM NODE     15.00 TO NODE     25.00 IS CODE =  21
----------------------------------------------------------------------------
  >>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
============================================================================
         ASSUMED INITIAL SUBAREA UNIFORM
         DEVELOPMENT IS APARTMENT
  TC = K*[(LENGTH**3)/(ELEVATION CHANGE)]**.2
  INITIAL SUBAREA FLOW-LENGTH(FEET) =   285.00
  UPSTREAM ELEVATION(FEET) =   1345.00
  DOWNSTREAM ELEVATION(FEET) =   1340.50
  ELEVATION DIFFERENCE(FEET) =      4.50
  TC = 0.323*[(  285.00**3)/(     4.50)]**.2 =    7.097
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.789
  APARTMENT DEVELOPMENT RUNOFF COEFFICIENT = .8753
  SOIL CLASSIFICATION IS "D"
  SUBAREA RUNOFF(CFS) =      1.10
  TOTAL AREA(ACRES) =      0.45   TOTAL RUNOFF(CFS) =      1.10

****************************************************************************
  FLOW PROCESS FROM NODE     25.00 TO NODE     35.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1337.50  DOWNSTREAM(FEET) =  1334.00
  FLOW LENGTH(FEET) =   405.00   MANNING'S N =  0.013
  ESTIMATED PIPE DIAMETER(INCH) INCREASED TO 12.000
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   4.8 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   3.71
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       1.10
  PIPE TRAVEL TIME(MIN.) =   1.82    Tc(MIN.) =    8.92
  LONGEST FLOWPATH FROM NODE     15.00 TO NODE     35.00 =     690.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     35.00 TO NODE     35.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
```

```
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.488
  APARTMENT DEVELOPMENT RUNOFF COEFFICIENT = .8727
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    1.22   SUBAREA RUNOFF(CFS) =    2.65
  TOTAL AREA(ACRES) =        1.7   TOTAL RUNOFF(CFS) =       3.75
  TC(MIN.) =    8.92

****************************************************************************
  FLOW PROCESS FROM NODE     35.00 TO NODE     45.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1334.00  DOWNSTREAM(FEET) =  1322.00
  FLOW LENGTH(FEET) =   550.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  12.0 INCH PIPE IS   7.6 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   7.12
  ESTIMATED PIPE DIAMETER(INCH) =  12.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       3.75
  PIPE TRAVEL TIME(MIN.) =   1.29    Tc(MIN.) =   10.20
  LONGEST FLOWPATH FROM NODE     15.00 TO NODE     45.00 =    1240.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     45.00 TO NODE     45.00 IS CODE =  81
----------------------------------------------------------------------------
  >>>>>ADDITION OF SUBAREA TO MAINLINE PEAK FLOW<<<<<
============================================================================
    10 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.326
  APARTMENT DEVELOPMENT RUNOFF COEFFICIENT = .8711
  SOIL CLASSIFICATION IS "D"
  SUBAREA AREA(ACRES) =    2.76   SUBAREA RUNOFF(CFS) =    5.59
  TOTAL AREA(ACRES) =        4.4   TOTAL RUNOFF(CFS) =       9.34
  TC(MIN.) =   10.20

****************************************************************************
  FLOW PROCESS FROM NODE     45.00 TO NODE     40.00 IS CODE =  31
----------------------------------------------------------------------------
  >>>>>COMPUTE PIPE-FLOW TRAVEL TIME THRU SUBAREA<<<<<
  >>>>>USING COMPUTER-ESTIMATED PIPESIZE (NON-PRESSURE FLOW)<<<<<
============================================================================
  ELEVATION DATA: UPSTREAM(FEET) =  1322.00  DOWNSTREAM(FEET) =  1320.40
  FLOW LENGTH(FEET) =   600.00   MANNING'S N =  0.013
  DEPTH OF FLOW IN  24.0 INCH PIPE IS  16.5 INCHES
  PIPE-FLOW VELOCITY(FEET/SEC.) =   4.04
  ESTIMATED PIPE DIAMETER(INCH) =  24.00    NUMBER OF PIPES =   1
  PIPE-FLOW(CFS) =       9.34
  PIPE TRAVEL TIME(MIN.) =   2.47    Tc(MIN.) =   12.68
  LONGEST FLOWPATH FROM NODE     15.00 TO NODE     40.00 =    1840.00 FEET.

****************************************************************************
  FLOW PROCESS FROM NODE     40.00 TO NODE     45.00 IS CODE =  11
----------------------------------------------------------------------------
  >>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<
============================================================================

  ** MAIN STREAM CONFLUENCE DATA **
  STREAM     RUNOFF      Tc      INTENSITY     AREA
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)   (ACRE)
      1        9.34    12.68       2.087        4.43
  LONGEST FLOWPATH FROM NODE     15.00 TO NODE     45.00 =    1840.00 FEET.

  ** MEMORY BANK #  1 CONFLUENCE DATA **
  STREAM     RUNOFF      Tc      INTENSITY     AREA
  NUMBER      (CFS)    (MIN.)   (INCH/HOUR)   (ACRE)
      1        9.75     9.59       2.399        4.40
  LONGEST FLOWPATH FROM NODE     10.00 TO NODE     45.00 =     995.00 FEET.

 ********************************WARNING*********************************
  IN THIS COMPUTER PROGRAM, THE CONFLUENCE VALUE USED IS BASED
  ON THE RCFC&WCD FORMULA OF PLATE D-1 AS DEFAULT VALUE. THIS FORMULA
  WILL NOT NECESSARILY RESULT IN THE MAXIMUM VALUE OF PEAK FLOW.
 ************************************************************************

  ** PEAK FLOW RATE TABLE **
  STREAM    RUNOFF       Tc      INTENSITY
  NUMBER     (CFS)     (MIN.)   (INCH/HOUR)
      1      16.82       9.59        2.399
      2      17.83      12.68        2.087
```

```
  COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:
  PEAK FLOW RATE(CFS) =      16.82   Tc(MIN.) =    9.59
  TOTAL AREA(ACRES) =        8.8
================================================================================
  END OF STUDY SUMMARY:
  TOTAL AREA(ACRES)     =        8.8  TC(MIN.) =      9.59
  PEAK FLOW RATE(CFS)   =      16.82
================================================================================
================================================================================
  END OF RATIONAL METHOD ANALYSIS
```

Technical Appendix D

Hydraulic Calculations

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Nov 24 2021

24-INCH PIPE

Circular

Diameter (ft)	= 2.00
Invert Elev (ft)	= 1320.50
Slope (%)	= 1.10
N-Value	= 0.013

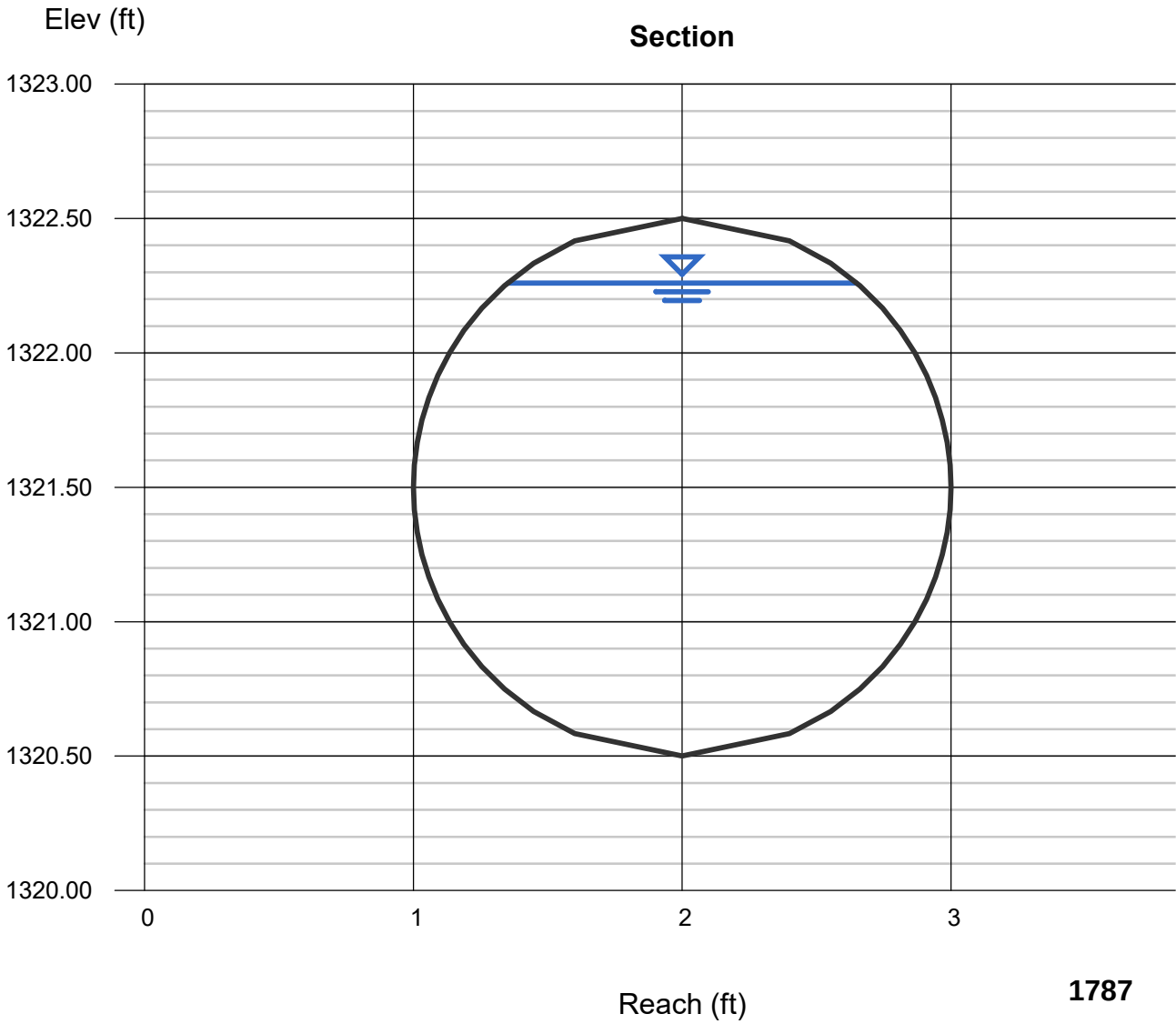
Calculations

Compute by:	Known Q
Known Q (cfs)	= 26.15

Q100 at Confluence Point

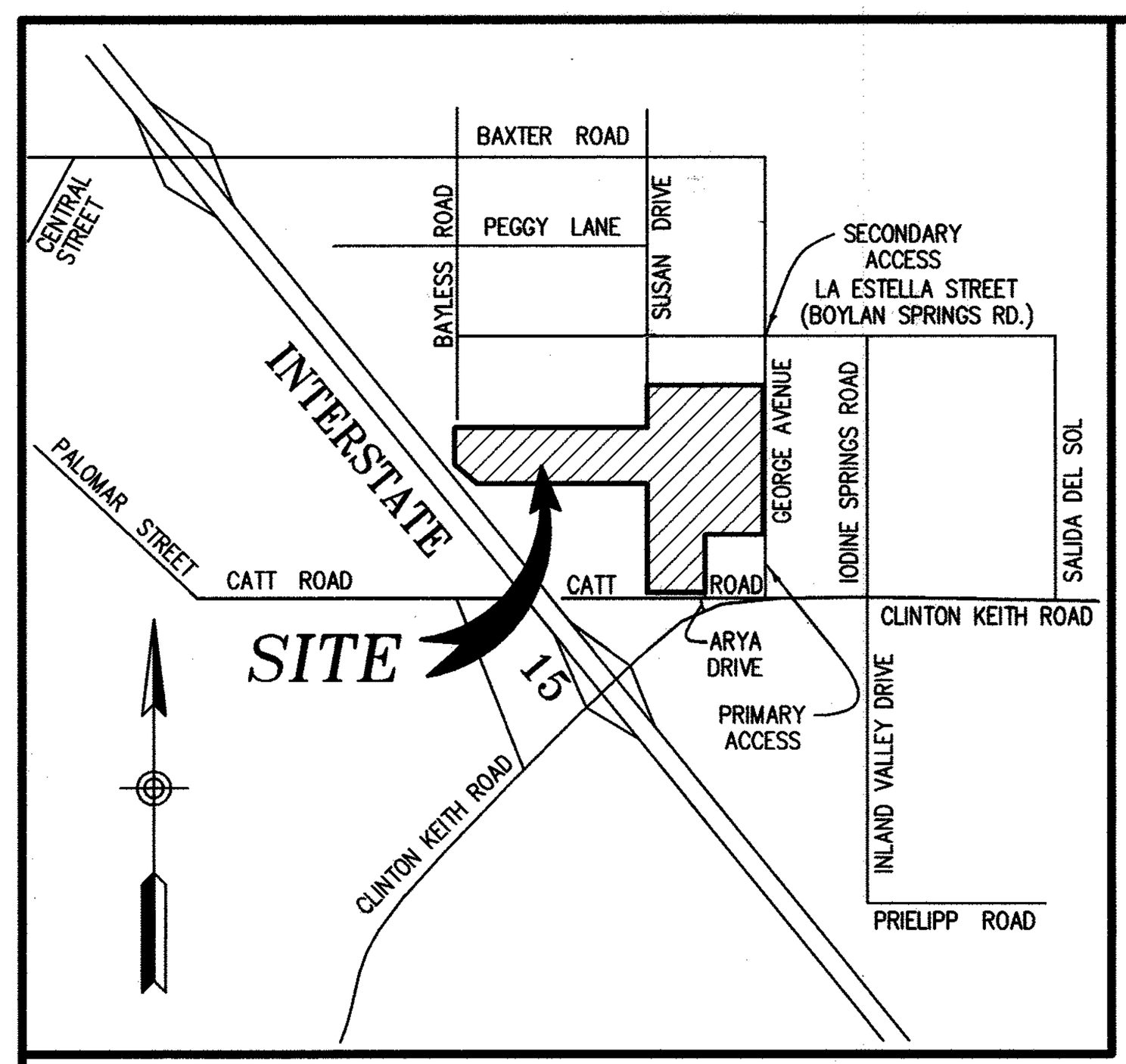
Highlighted

Depth (ft)	= 1.76
Q (cfs)	= 26.15
Area (sqft)	= 2.93
Velocity (ft/s)	= 8.53
Wetted Perim (ft)	= 4.87
Crit Depth, Yc (ft)	= 1.77
Top Width (ft)	= 1.30
EGL (ft)	= 2.89



Technical Appendix E

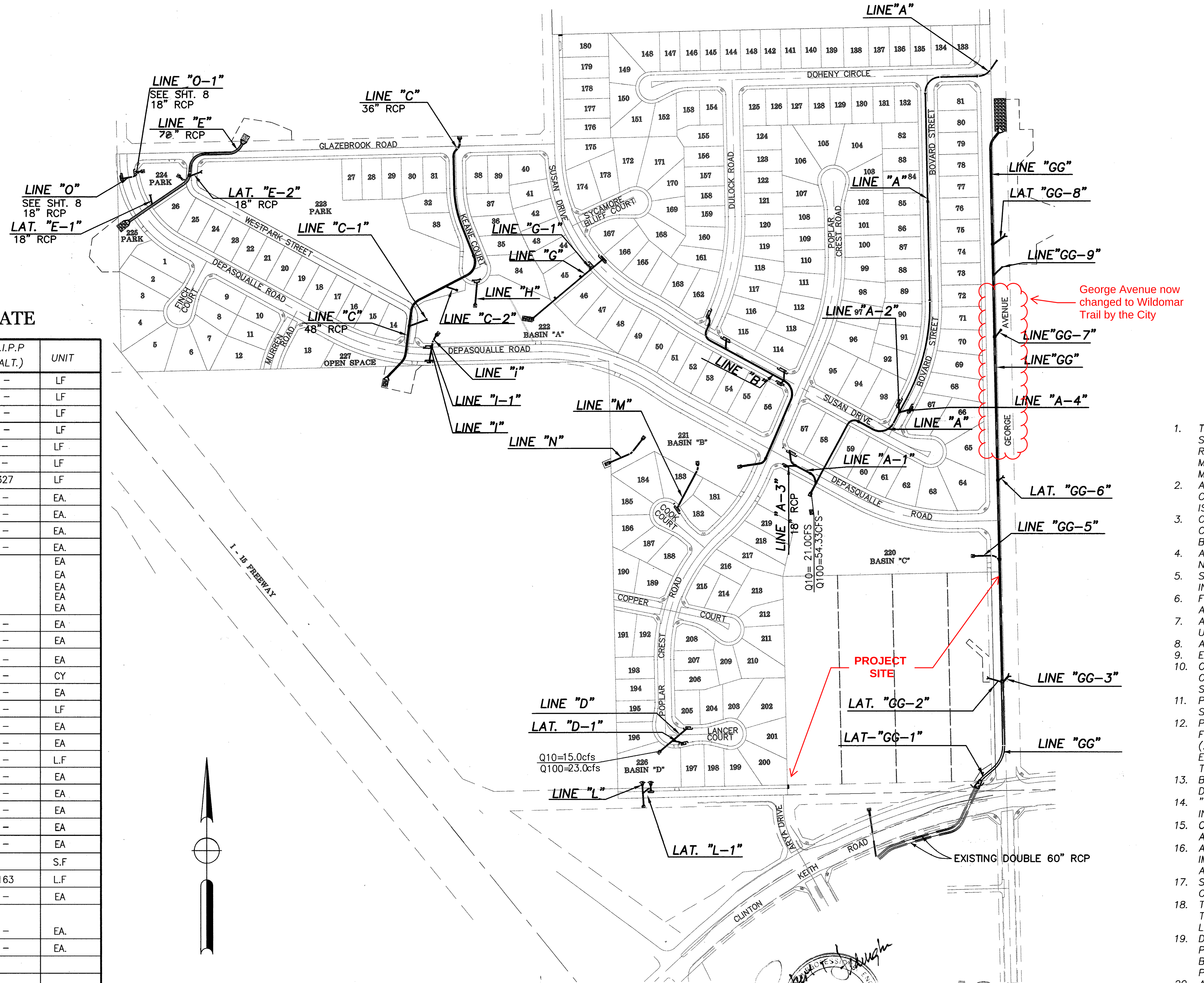
- ***As-built Storm Drain Improvement Plans***



VICINITY MAP

N.T.S.

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT



GRAPHIC SCALE

200 0 100 200 400 600

1 inch = 200 ft.
(IN FEET)

STORM DRAIN CONSTRUCTION NOTES & QUANTITY ESTIMATE

NO.	ITEMS	QUANTITY ON-SITE	QUANTITY OFF-SITE	C.I.P.P (ALT.)	UNIT
30	INSTALL 18" RCP (CLASS IV)	1991	–	–	LF
31	INSTALL 24" RCP (CLASS IV)	915	–	–	LF
32	INSTALL 30"R.C.P (1500–D)	331	–	–	LF
33	INSTALL 36"R.C.P (1500–D)	612	–	–	LF
34	INSTALL 42" R.C.P (1500–D)	–	–	–	LF
35	INSTALL 54" R.C.P (1500–D)	2253	–	–	LF
36	INSTALL 72" R.C.P (1500–D)	780	–	327	LF
37	CONSTRUCT MANHOLE NO. 1 PER RCFCD STD. M.H. 251	7	–	–	EA.
38	CONSTRUCT MANHOLE NO. 2 PER RCFCD STD. M.H. 252	14	–	–	EA.
39	CONSTRUCT JUNCTION STRUCTURE NO. 2 PER RCFCD STD. DWG. J.5 227	3	–	–	EA.
40	CONSTRUCT JUNCTION STRUCTURE NO. 4 PER RCFCD STD. DWG. J.5 229	3	–	–	EA.
41	CONST. CURB INLET CATCH BASIN PER R.C.T.D. STD. NO.300 W/ LOCAL DEPRESSION CASE B/C PER R.C.T.D NO. 311 (W & V PER PLAN) W=4.0' W= 7.0' W=10.0' W=14.0' W=21.0'	– 2 2 7 7			EA EA EA EA EA
42	CONSTRUCT HEADWALL PER CALTRANS STD. D86B	14		–	EA
43	CONSTRUCT STRAIGHT HEADWALL PER CALTRANS STD. D-89	1	–	–	EA
44	CONSTRUCT CONCRETE COLLAR PER R.C.F.C. & WCD STD. DWG. NO. M803	6	–	–	EA
45	INSTALL RIPRAP (SIZES AS PER PLAN)	611	–	–	CY
46	CONSTRUCT TRASH RACK PER DETAIL ON SHEET NO.10	11	–	–	EA
47	CONSTRUCT 3' WIDE CONCRETE V-DITCH PER DETAIL ON SHT. 8	–	–	–	LF
48	CONSTRUCT MODIFIED MANHOLE NO.3 PER DETAIL ON SHT. 11	1	–	–	EA
49	REMOVE EXISTING WINGWALL	1	–	–	EA
50	CONSTRUCT CHAIN LINK FENCE PER R.C.F.C & W.C.D. STD. DWG NO. M801	1340	–	–	L.F
51	CONSTRUCT MODIFIED CONCRETE DROP INLET PER RCFCD STD. CB110	2	–	–	EA
52	CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.D STD. NO. M816	1	–	–	EA
53	CONSTRUCT HEADWALL PER CALTRANS STD. D90A	5	–	–	EA
54	CONSTRUCT CONCRETE DROP INLET PER R.C.F.C. STD. CB110	1	1	–	EA
55	CONSTRUCT TRANSITION STRUCTURE NO.3 PER R.C.F.C.D. TS 303	5	–	–	EA
57	CONSTRUCT CONCRETE APRON, 6" THICK	400	–		S.F
58	INSTALL 60" RCP (1500–D)	163	–	163	L.F
59	CONSTRUCT TRANSITION STRUCTURE NO.1 PER R.C.F.C.D STD. TS 301	1	–	–	EA
	WITH REINFORCED CONCRETE BOX PER CALTRANS STD. D80 (L=15.4')				
60	CONSTRUCT PIPE SWING GATE PER R.C.F.C.D STD. M820	4	–	–	EA.
60	CONSTRUCT PIPE SWING GATE PER R..C.F.C.D STD. M820	4	–	–	EA.

INDEX

	SHEET NO.
TITLE SHEET	1
PLAN AND PROFILE(RCFCD)	2 TO 6
PLAN AND PROFILE(RCTD)	7 TO 13
STORM DRAIN CONNECTOR PIPES(RCTD)	14 TO 16

R.C.F.C. & W.C.D. STANDARD DRAWINGS

JS 227	JUNCTION STRUCTURE NO.2	2–4
JS 229	JUNCTION STRUCTURE NO.4	2–4
MH 252	MANHOLE NO. 2	2–4
MH 251	MANHOLE NO. 1	2–4, 6, 11–13
M 803	CONCRETE COLLAR	2–4 & 6
M 816	CONCRETE BULKHEAD	5
CB 110	CONCRETE DROP INLET	5
TS 303	TRANSITION STRUCTURE NO.3	7–11

COUNTY OF RIVERSIDE STANDARD DRAWINGS

CB100	CATCH BASIN NO. 1	4,7,8 & 11

CALTRANS STANDARDS

D 86B	HEADWALL	8,9
D 89	HEADWALL	3,7
D 90	CONCRETE HEADWALL	2,4,6
D 80	REINFORCED CONCRETE BOX	4,11

GENERAL NOTES

1. THE CONTRACTOR SHALL CONSTRUCT THE FLOOD CONTROL IMPROVEMENTS SHOWN ON THE DRAWINGS IN CONFORMANCE WITH THE REQUIREMENTS OF THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT'S M.O.U. STANDARD SPECIFICATIONS DATED SEPTEMBER 1984, AND DESIGN MANUAL STANDARD DRAWINGS DATED MAY 1971.
2. AN ENCROACHMENT PERMIT IS REQUIRED FROM RIVERSIDE COUNTY FLOOD CONTROL. CONTACT ED LOTZ AT 909/955–1266. AFTER THE PERMIT IS ISSUED THE DISTRICT MUST BE NOTIFIED ONE WEEK PRIOR TO CONSTRUCTION.
3. CONSTRUCTION INSPECTION WILL BE PERFORMED BY RIVERSIDE COUNTY FLOOD CONTROL. CONTACT DALE ANDERSON AT 909/955–1288. THE DISTRICT MUST BE NOTIFIED TWENTY DAYS (20) PRIOR TO CONSTRUCTION.
4. ALL STATIONING REFERS TO CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED.
5. STATIONING FOR LATERALS AND CONNECTOR PIPE REFER TO THE CENTERLINE INTERSECTION STATIONS.
6. FORTY–EIGHT HOURS BEFORE EXCAVATION, CALL UNDERGROUND SERVICE ALERT 1–800–422–4133.
7. ALL ELEVATIONS SHOWN ARE IN FEET AND DECIMALS THEREOF BASED ON U.S.C. & G.S. DATUM.
8. ALL CROSS SECTIONS ARE TAKEN LOOKING DOWNSTREAM.
9. ELEVATIONS OF UTILITIES ARE APPROXIMATE UNLESS OTHEWISE NOTED.
10. OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES TO BE ABANDONED SHALL BE SEALED WITH 6" OF CLASS "B" CONCRETE.
11. PIPE CONNECTED TO THE MAINLINE PIPE SHALL CONFORM TO JUNCTION STRUCTURE NO.4 (JS 229) UNLESS OTHERWISE NOTED.
12. PIPE BENDING SHALL CONFORM TO RCFC&WCD STD. DWG. NO. M815 EXCEPT FOR COVER <2 FEET. FOR COVER <2 FEET, CONCRETE SLURRY (2000 PSI – 2 SACK) SHALL BE USED. THE ENTIRE TRENCH SHALL BE EXTENDING 4 INCHES MINIMUM AND 12 INCHES MAXIMUM ABOVE THE TOP OF THE PIPE.
13. BH–1 INDICATES SOIL BORING LOCATIONS BASED ON THE SOILS REPORT DATED ________. LOCATIONS SHOWN ARE APPROXIMATE.
14. "V" IS THE DEPTH OF CATCH BASINS MEASURED FROM THE TOP OF CURB TO INVERT OF CONNECTOR PIPE.
15. CATCH BASINS SHALL BE LOCATED SO THAT LOCAL DEPRESSION SHALL BEGIN AT EXISTING CURB RETURN JOINT, UNLESS OTHERWISE SPECIFIED.
16. ALL CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS AND OTHER EXISTING IMPROVEMENTS TO BE RECONSTRUCTED IN KIND AND AT THE SAME ELEVATION AND LOCATION AS THE EXISTING IMPROVEMENTS UNLESS OTHERWISE NOTED.
17. STANDARD DRAWINGS CALLED FOR ON THE PLAN AND PROFILE SHALL CONFORM TO DISTRICT STANDARD DRAWINGS UNLESS NOTED OTHERWISE.
18. THE CONTRACTOR IS REQUIRED TO CALL ALL UTILITY AGENCIES REGARDING TEMPORARY SHORING AND SUPPORT REQUIREMENTS FOR THE VARIOUS UTILITY LINES SHOWN ON THESE PLANS.
19. DURING ROUGH GRADING OPERATIONS AND PRIOR TO CONSTRUCTION OF PERMANENT DRAINAGE STRUCTURES, TEMPORARY DRAINAGE CONTROL SHOULD BE PROVIDED TO PREVENT PONDING WATER AND DAMAGE TO ADJACENT PROPERTIES.
20. APPROVAL OF THESE PLANS BY THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERAVTION DISTRICT DOES NOT RELIEVE THE DEVELOPER'S ENGINEER OF RESPONSIBILITY FOR THE ENGINEERING DESIGN. IF FIELD CHANGES ARE REQUIRED, IT WILL BE THE RESPONSIBILITY OF THE DESIGN ENGINEER TO MAKE THE NECESSARY CORRECTIONS.
21. THE CONTRACTOR OR DEVELOPER SHALL SECURE ALL REQUIRED ENCROACHMENT AND/OR STATE AND FEDERAL REGULATORY PERMITS PRIOR TO THE COMMENCEMENT OF ANY WORK.

REGISTERED PROFESSIONAL ENGINEER ROBERT THOMAS FEDERIGH No. 30000 Exp. 9/30/11 CIVIL STATE OF CALIFORNIA

AS BUILT
APPROVED BY Robert T. Federigh
DATE 6/24/2010

TRACT NO. 30155 **IP NO. 040232**

Don't Dig...Until You Call U.S.A. Toll Free
1–800–227–2600
for the location of buried utility lines.
Don't disrupt vital services.
BURIED CABLE
TWO WORKING DAYS BEFORE YOU DIG

BENCHMARK
3" ALUMINUM DISK IN CONC. CYLINDER. FROM THE INT. OF IVY ST. AND WASHINGTON ST., 3.6 MILES N.W. ON WASHINGTON–PALOMAR STS. TO THE INT. OF PALOMAR AND CLINTON KEITH RD.: 0.5 MILE S. ON CLINTON KEITH RD., TO THE INT. OF CLINTON KEITH RD. AND GRAND AVE. IN THE N. COR. OF THE 'T' INT., 124.8' W. OF CLINTON KEITH RD. 47.6' N. OF GRAND AVE.: 6' N.E. OF A 1" I.P. WITH PLASTIC PLUG L.S. 2602; 2'S. OF A 6' CHAIN LINK FENCE AROUND A S.C.E. POWER STATION AND R.C.W.D. WELL SITE 10' N. OF P.P. #2075052E; SET FIBERGLASS WITNESS POST 1' NORTH.
ELEV. 1199.072

REF.	REVISIONS DESCRIPTION	APPR.	DATE

DESIGNED BY:
DRAWN BY:
DATE DRAWN:

SEAL: REGISTERED PROFESSIONAL ENGINEER PETER J.C. CHAO No. 31538 Exp. 12–31–08 CIVIL STATE OF CALIFORNIA

HJK CONSULTANTS INC.
CIVIL ENGINEERING•LAND PLANNING•LAND SURVEYING
25096 JEFFERSON AVE.
MURRIETA, CALIFORNIA 92562
TEL. (951) 698–1350

PREPARED BY: PETER J.C. CHAO
R.C.E. NO. 31538
DATE 3/28/07

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: Stuart E. McKibbin PLANNING ENGINEER DATE: 4·18·2007
APPROVED BY: CHIEF ENGINEER DATE: 4/18/07

SEAL: REGISTERED PROFESSIONAL ENGINEER ALAN FRENCH No. 45702 Exp. 12–31–08 CIVIL STATE OF CALIFORNIA

COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT
APPROVED BY: Alan French ALAN FRENCH DATE: 3·30·07
RECOMMENDED BY: PBS&J DATE: 3/22/07

MURRIETA VALLEY –
GEORGE AVENUE STORM DRAIN
GLAZEBROOK ROAD STORM DRAIN
WESTPARK STREET STORM DRAIN
TITLE SHEET

PROJECT NO. 7–0–00234,7–0–00235 7–0–00236
DRAWING NO. 7–404
SHEET NO. 1 OF 16

C.I.P.P NOTES:

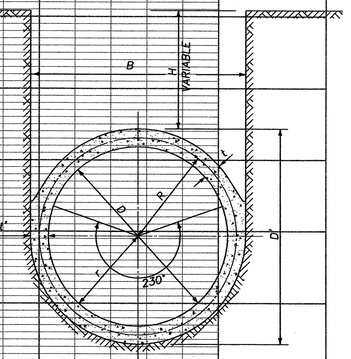
1. CAST-IN-PLACE CONCRETE PIPES SHALL ONLY BE USED WHERE SHOWN ON THE DRAWINGS AND APPROVED BY THE AGENCY RESPONSIBLE FOR THE MAINTENANCE OF THE PROJECT.
2. A GEOTECHNICAL INVESTIGATION REPORT SHALL BE PREPARED AND TRANSMITTED TO THE APPROVING AGENCY AT THE TIME THE DRAWINGS ARE INITIALLY SUBMITTED FOE REVIEW. THE REPORT SHALL BE PREPARED BY A LICENSED CIVIL OR GEOTECHNICAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA, AND SHALL ADDRESS, BUT NOT NECESSARILY BE LIMITED TO THE FOLLOWING ISSUES:
   - A. TRENCH WALL STABILITY
     - A TRENCH STABILITY ANALYSIS SHALL BE PREPARED. SLOUGHING AND OVERALL TRENCH STABILITY AS IT PERTAINS TO THE CONSTRUCTION OF CIPP SHALL BE ADDRESS.
   - B. EXISTENCE OF GROUNDWATER
     - IF GROUND WATER IS PRESENT, THE REPORT SHALL SPECIFY APPROPRIATE MITIGATION MEASURES.
   - C. EXISTENCE OF EXPANSIVE SOILS
     - C.I.P.P SHALL NOT BE USED IF EXPANSIVE SOILS ARE PRESENT.
   - D. CORROSION POTENTIAL
     - A CHEMICAL ANALYSIS OF THE SOIL SAMPLES SHALL BE MADE TO DETERMINE SULFATE CONCENTRATION. A RECOMMENDATION WITH RESPECT TO CEMENT "TYPE" SHALL BE MADE.
   - E. OVERALL FEASIBILITY OF CONSTRUCTING C.I.P.P
3. FOR STRUCTURAL DESIGN PURPOSES, THE PIPE SHALL BE DESIGNED FLOWING NO MORE THAN JUST FULL UNLESS STRUCTURAL CALCULATIONS ARE SUBMITTED SHOWING THAT THE PIPE CAN SAFELY SUSTAIN THE PROPOSED HYDROSTATIC HEAD.
4. DESIGN FLOW VELOCITIES GREATER THAN 20 FT/SEC. WILL NOT BE ALLOWED UNLESS AN EXCEPTION IS GRANTED BY THE ENGINEER.
5. A MINIMUM 6 SACK PER CUBIC YARD DESIGN MIX SHALL BE USED AND THE COMPRESSIVE STRENGTH OF THE CONCRETE (fc) AT 28 DAYS SHALL BE AT LEAST 4000 PSI; THE MODULUS OF RUPTURE SHALL BE AT LEAST 550 PSI. FOR VELOCITIES GREATER THAN 10 FT/SEC BUT NOT GREATER THAN 20 FT/SEC. THE COMPRESSIVE STRENGTH SHALL BE 5000 PSI. COMPRESSIVE STRENGTHS SHALL BE NOTED ON THE DRAWINGS.
6. PIPE WALL THICKNESS FOR FLOWS HAVING VELOCITIES EQUAL TO OR LESS THAN 10 FT/SEC. SHALL COMPLY WITH THE REQUIREMENTS AS SET FORTH IN THE STANDARD SPECIFICATIONS. FOR VELOCITIES GREATER THAN 10 FT/SEC BUT NOT MORE THAN 20 FT/SEC A 140 DEGREE SEGMENT OF INVERT SHALL BE THICKENED 2 INCHES IN WALL THICKNESS AS " SACRIFICIAL CONCRETE". INCREASES IN STANDARD WALL THICKNESS SHALL BE NOTED ON THE DRAWINGS.
7. THE MINIMUM FINISHED COVER OVER THE PIPE SHALL BE THREE (3) FEET.
8. THE MINIMUM PIPE SLOPE SHALL BE 0.005
9. CAST-IN-PLACE CONCRETE PIPE, WHICH IS TO BE MAINTAINED BY THE COUNTY OR DISTRICT, SHALL NOT BE PLACED IN THE PRESENCE OF THE ENGINEER.

C.I.P.P NOTES (CONT.)

10. WHEN C.I.P.P IS SPECIFIED AS AN ALTERNATIVE TO RCP, A NOTE TO THE CONSTRUCTION DRAWINGS STATING THAT TRANSITION STRUCTURE NO.3 SHALL REPLACED, JUNCTION STRUCTURE NO.2 WHEN C.I.P.P IS USED. NO CHANGES NEED BE MADE FOR JUNCTION STRUCTURE NO.4.
11. CAST-IN-PLACE PIPE SHALL NOT HAVE CURVE RADII LESS THAN SHOWN HERE.

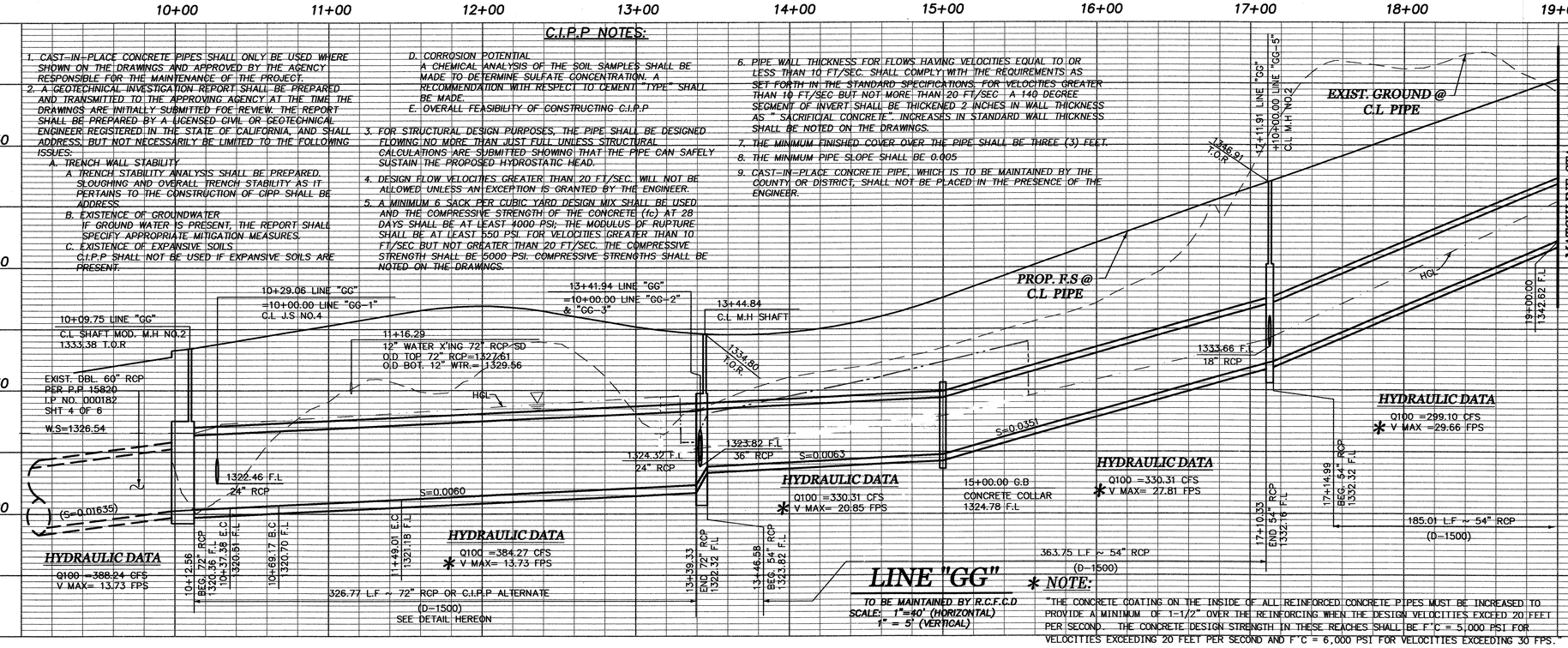
PIPE SIZE	RADIUS *
48"	60 FT.
72"	60 FT.

* THESE VALUES MAY BE REDUCED BY 25% FOR CURVES WITH INCLUDED ANGLES OF LESS THAN 25 DEGREES.

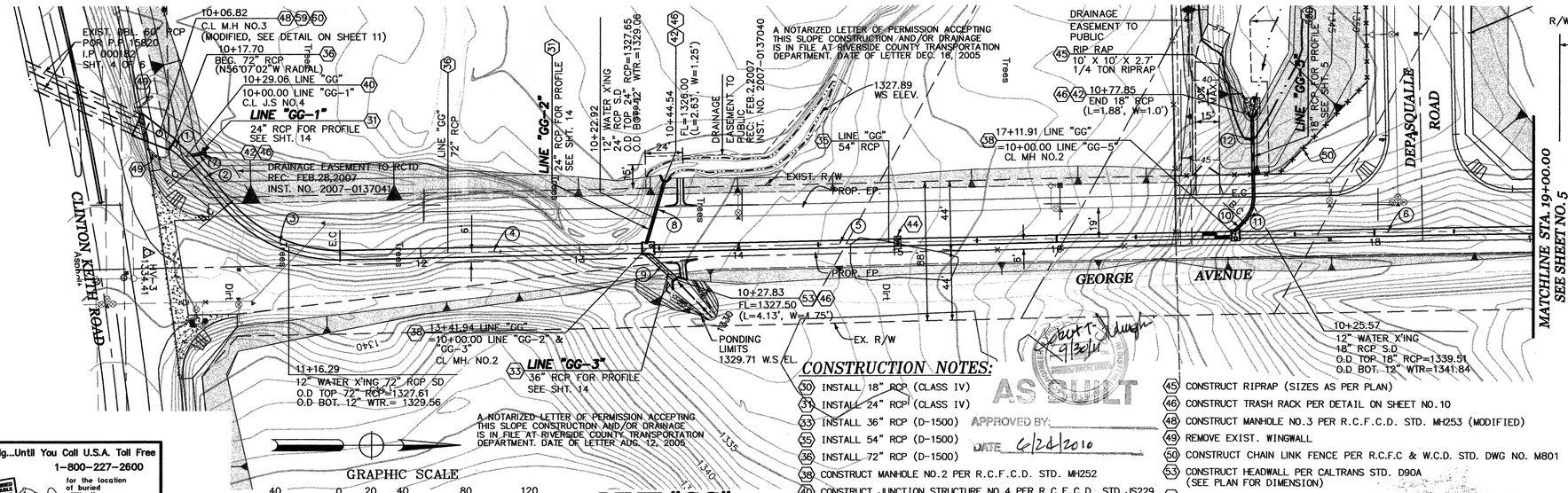


TYPICAL LYNCH C.I.P PIPE CROSS SECTION (72")

NOMINAL DIAMETER D	OUTER DIAMETER D'	WITH OF PIPE/TRENCH B	THICKNESS (MIN.) I	THICKNESS (MIN.) I'
72"	86"	87"	7"	7"



* NOTE:
"THE CONCRETE COATING ON THE INSIDE OF ALL REINFORCED CONCRETE PIPES MUST BE INCREASED TO PROVIDE A MINIMUM OF 1-1/2" OVER THE REINFORCING WHEN THE DESIGN VELOCITIES EXCEED 20 FEET PER SECOND. THE CONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE F'C = 5,000 PSI FOR VELOCITIES EXCEEDING 20 FEET PER SECOND AND F'C = 6,000 PSI FOR VELOCITIES EXCEEDING 30 FPS."

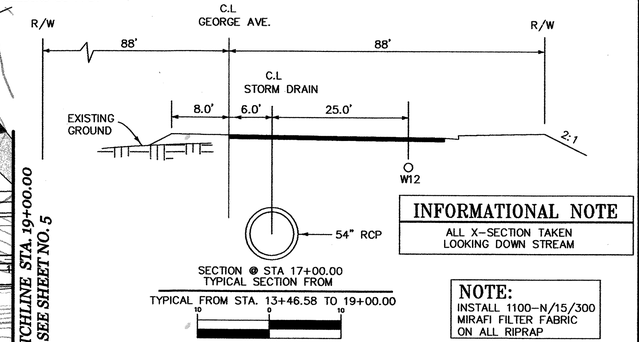


CONSTRUCTION NOTES:

(30) INSTALL 18" RCP (CLASS IV)
(31) INSTALL 24" RCP (CLASS IV)
(33) INSTALL 36" RCP (D-1500)
(35) INSTALL 54" RCP (D-1500)
(36) INSTALL 72" RCP (D-1500)
(38) CONSTRUCT MANHOLE NO.2 PER R.C.F.C.D. STD. MH252
(40) CONSTRUCT JUNCTION STRUCTURE NO.4 PER R.C.F.C.D. STD.JS229
(42) CONSTRUCT HEADWALL PER CALTRANS STD. D86B (SEE PLAN FOR DIMENSIONS)
(44) CONSTRUCT CONCRETE COLLAR PER R.C.F.C.D STD. M803
(45) CONSTRUCT RIPRAP (SIZES AS PER PLAN)
(46) CONSTRUCT TRASH RACK PER DETAIL ON SHEET NO.10
(48) CONSTRUCT MANHOLE NO.3 PER R.C.F.C.D. STD. MH253 (MODIFIED)
(49) REMOVE EXIST. WINGWALL
(50) CONSTRUCT CHAIN LINK FENCE PER R.C.F.C & W.C.D. STD. DWG NO. M801
(53) CONSTRUCT HEADWALL PER CALTRANS STD. D90A (SEE PLAN FOR DIMENSION)
(59) CONSTRUCT TRANSITION STRUCTURE NO.1 PER R.C.F.C.D. STD. TS 301 WITH REINFORCED CONCRETE BOX PER CALTRANS STD. D80 (12' WIDE x 6' HIGH)

APPROVED BY: _____
DATE 6/24/2010

AS BUILT



INFORMATIONAL NOTE
ALL X-SECTION TAKEN LOOKING DOWN STREAM

NOTE:
INSTALL 1100-N/15/300 MIRAFI FILTER FABRIC ON ALL RIPRAP

DATA TABLE

NO	BRG /DELTA	RADIUS	TANGENT	LENGTH	B.C	E.C
(1)	15°47'52"	90.00'	12.49'	24.82'	10+12.56	10+37.38
(2)	N49°40'50"E	–	–	31.79'	–	–
(3)	50°53'26"	90.00'	42.82'	79.84'	10+69.17	11+49.01
(4)	N01°12'37"W	–	–	190.32'	–	–
(5)	N01°12'37"W	–	–	364.51'	–	–
(6)	N01°12'37"W	–	–	185.09'	–	–
(7)	N10°33'39"W	–	–	12.38'	–	–
(8)	N74°04'12"W	–	–	41.54'	–	–
(9)	N42°04'49"E	–	–	24.83'	–	–
(10)	N46°11'25"W	–	–	8.32'	–	–
(11)	45°00'00"	22.50'	9.32'	17.67'	10+08.32	10+25.99
(12)	N88°48'35"E	–	–	49.61'	–	–

TRACT NO. 30155 **IP NO. 040232**

Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCHMARK
3" ALUMINUM DISK IN CONC. CYLINDER. FROM THE INT. OF IVY ST. AND WASHINGTON ST., 3.6 MILES N.W. ON WASHINGTON–PALOMAR STS. TO THE INT. OF PALOMAR AND CLINTON KEITH RD.: 0.5 MILE S. ON CLINTON KEITH RD., TO THE INT. OF CLINTON KEITH RD. AND GRAND AVE. IN THE N. COR. OF THE "I" INT., 124.8' W. OF CLINTON KEITH RD. 47.6' N. OF GRAND AVE.; 6' N.E. OF A 1" I.P. WITH PLASTIC PLUG L.S. 2602; 2'S. OF A 6' CHAIN LINK FENCE AROUND A S.C.E. POWER STATION AND R.C.W.D. WELL SITE 10' N. OF P.P. #2075052E; SET FIBERGLASS WITNESS POST 1' NORTH.
ELEV. 1199.072

REF.	REVISIONS	APPR.	DATE

DESIGNED BY:
DRAWN BY:
DATE DRAWN:

SEAL: REGISTERED PROFESSIONAL ENGINEER — PETER J.C. CHAO — No. 31538 — Exp. 12-31-08 — CIVIL — STATE OF CALIFORNIA

CONSULTANTS INC.
CIVIL ENGINEERING•LAND PLANNING•LAND SURVEYING
25096 JEFFERSON AVE.
MURRIETA, CALIFORNIA 92562
TEL. (951) 698-1350
PREPARED BY: PETER J.C. CHAO
R.C.E. NO. 31538
DATE 3/19/07

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: _____ DATE: 4/17/07
APPROVED BY: _____ DATE: 4-18-2007

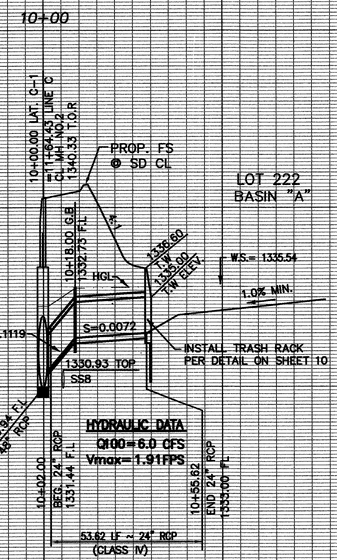
SEAL: REGISTERED PROFESSIONAL ENGINEER — ALAN FRENCH — No. 45702 — Exp. 12-31-08 — CIVIL — STATE OF CALIFORNIA

COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT
APPROVED BY: _____ DATE: 3.30.07
ALAN FRENCH
RECOMMENDED BY: PBS&J DATE: 3/22/07

MURRIETA VALLEY – GEORGE AVENUE
STORM DRAIN
STA. 10+09.75 TO 19+00.00
LINE "GG"

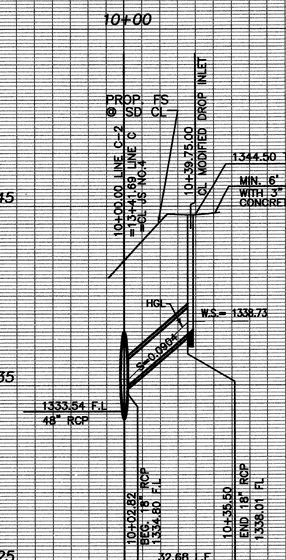
PROJECT NO. 7-0-00234
DRAWING NO. 7-404
SHEET NO. 4 OF 16

FILED MAR 19 2007
ORIGINAL



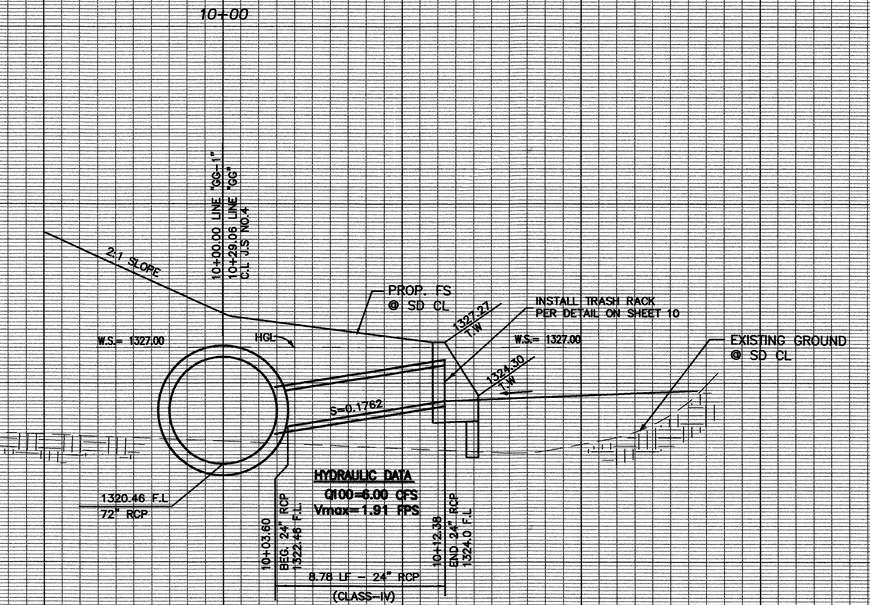
LAT. "C-1"

SCALE: HOR: 1"=40'
VERT: 1"= 4'
(SEE SHEET NO.3 FOR PLAN VIEW)
TO BE MAINTAINED BY R.C.T.D.



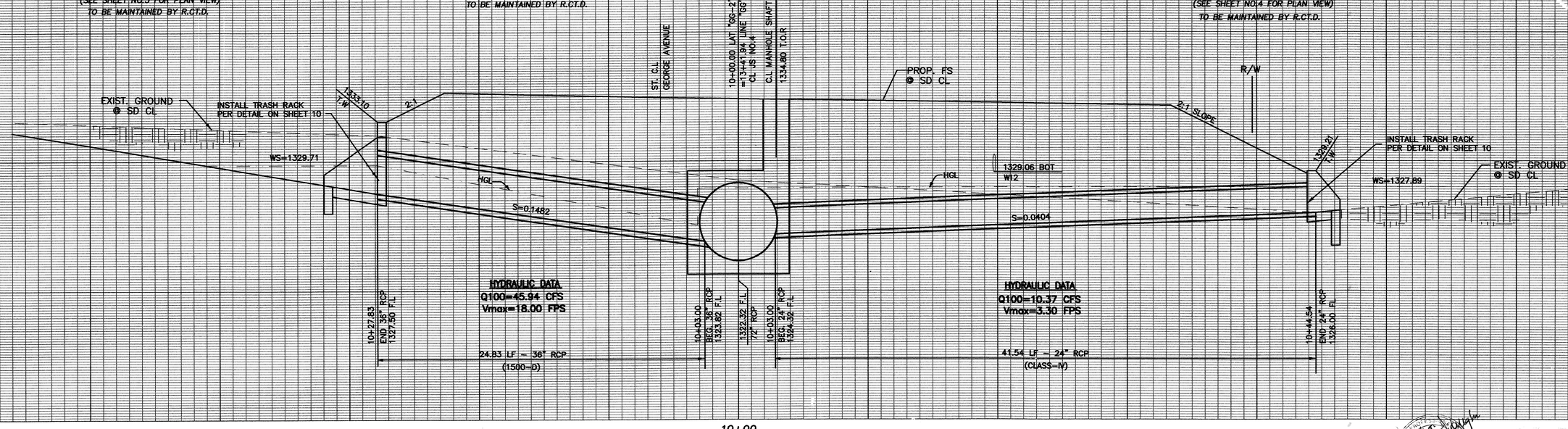
LAT. "C-2"

SCALE: HOR: 1"=40'
VERT: 1"= 4'
(SEE SHEET NO.3 FOR PLAN VIEW)
TO BE MAINTAINED BY R.C.T.D.



LAT. "GG-1"

SCALE: HOR: 1"=4'
VERT: 1"= 4'
(SEE SHEET NO.4 FOR PLAN VIEW)
TO BE MAINTAINED BY R.C.T.D.



LAT. "GG-3"

SCALE: HOR: 1"=4'
VERT: 1"= 4'
(SEE SHEET NO.4 FOR PLAN VIEW)
TO BE MAINTAINED BY R.C.T.D.

LAT. "GG-2"

SCALE: HOR: 1"=4'
VERT: 1"= 4'
(SEE SHEET NO.4 FOR PLAN VIEW)
TO BE MAINTAINED BY R.C.T.D.

Don't Dig...Until You Call U.S.A. Toll Free
1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

12/08

AS BUILT
APPROVED BY: Robert T. Shaughnessy
DATE 6/22/2010

TRACT NO. 30155 **IP NO. 040232**

BENCHMARK
3" ALUMINUM DISK IN CONC. CYLINDER. FROM THE INT. OF IVY ST. AND WASHINGTON ST., 3.6 MILES N.W. ON WASHINGTON-PALOMAR STS. TO THE INT. OF PALOMAR AND CLINTON KEITH RD.: 0.5 MILE S. ON CLINTON KEITH RD., TO THE INT. OF CLINTON KEITH RD. AND GRAND AVE. IN THE N. COR. OF THE "T" INT., 124.8' W. OF CLINTON KEITH RD. 47.6' N. OF GRAND AVE., 6' N.E. OF A 1" I.P. WITH PLASTIC PLUG L.S. 2602; 2'S. OF A 6' CHAIN LINK FENCE AROUND A S.C.E. POWER STATION AND R.C.W.D. WELL SITE 10' N. OF P.P. #20750526; SET FIBERGLASS WITNESS POST 1' NORTH.
ELEV. 1199.072

REF.	REVISIONS	APPR.	DATE

DESIGNED BY:
DRAWN BY:
DATE DRAWN:

SEAL: REGISTERED PROFESSIONAL ENGINEER — PETER J.C. CHAO — No. 31538 — Exp. 12-31-08 — CIVIL — STATE OF CALIFORNIA

HJK CONSULTANTS INC.
CIVIL ENGINEERING • LAND PLANNING • LAND SURVEYING
41769 ENTERPRISE CIRCLE NO. # 201
TEMECULA, CALIFORNIA 92590
TEL. (951) 719-3770
PREPARED BY: PETER J.C. CHAO
R.C.E. NO. 31538
DATE 3/19/07

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL: PLANNING ENGINEERING — DATE:
APPROVED BY: CHIEF ENGINEER — DATE:

SEAL: REGISTERED PROFESSIONAL ENGINEER — KHALED A. OTHMAN — No. 33950 — Exp. 6-30-08 — CIVIL — STATE OF CALIFORNIA

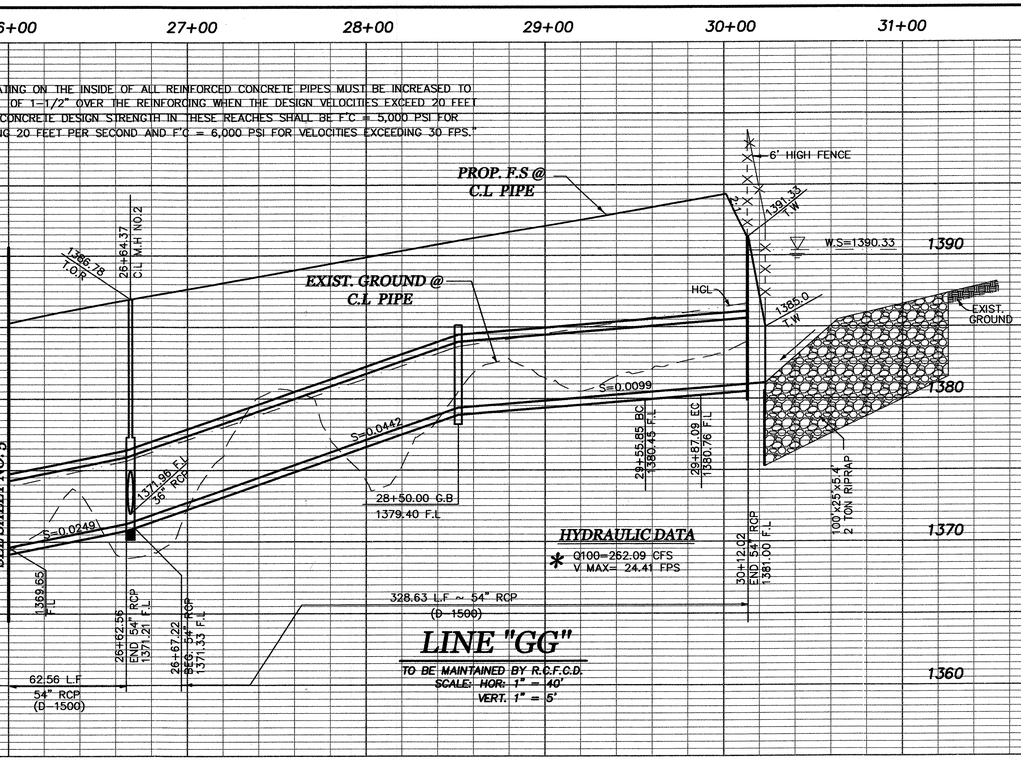
COUNTY OF RIVERSIDE
TRANSPORTATION DEPARTMENT
APPROVED BY: KHALED A. OTHMAN — DATE: 3-30-07
RECOMMENDED — DATE: 5/22/07

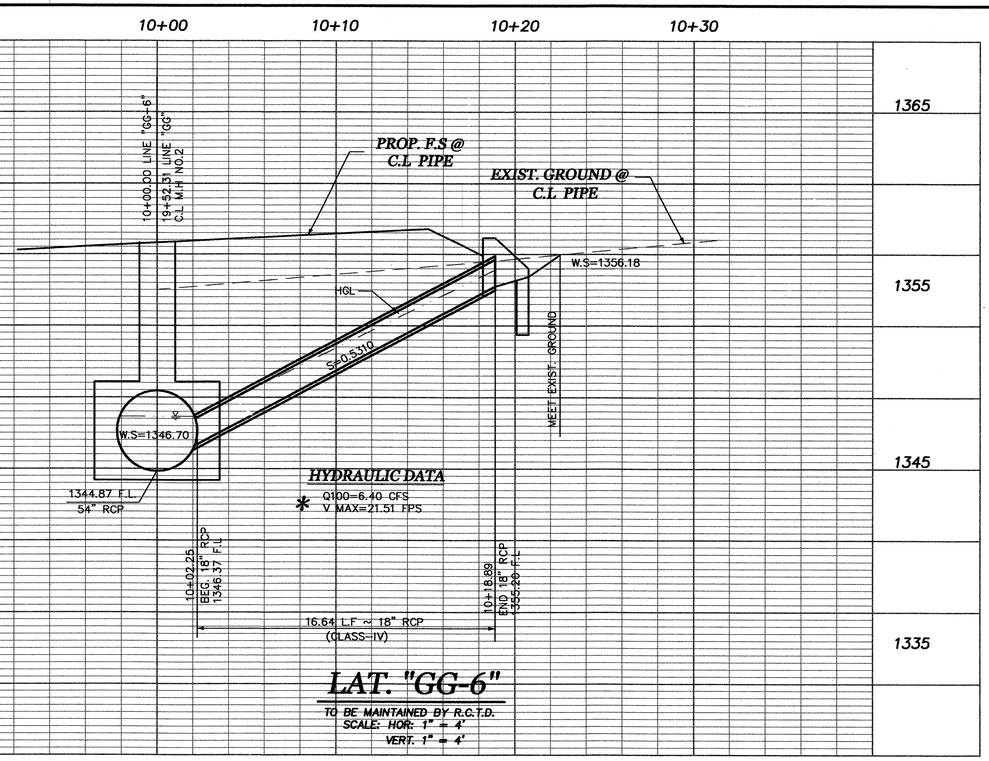
MURRIETA VALLEY
STORM DRAIN PLAN
CONNECTOR PIPE PROFILES
LAT. "C-1", "C-2", "GG-1",
"GG-2" & "GG-3"

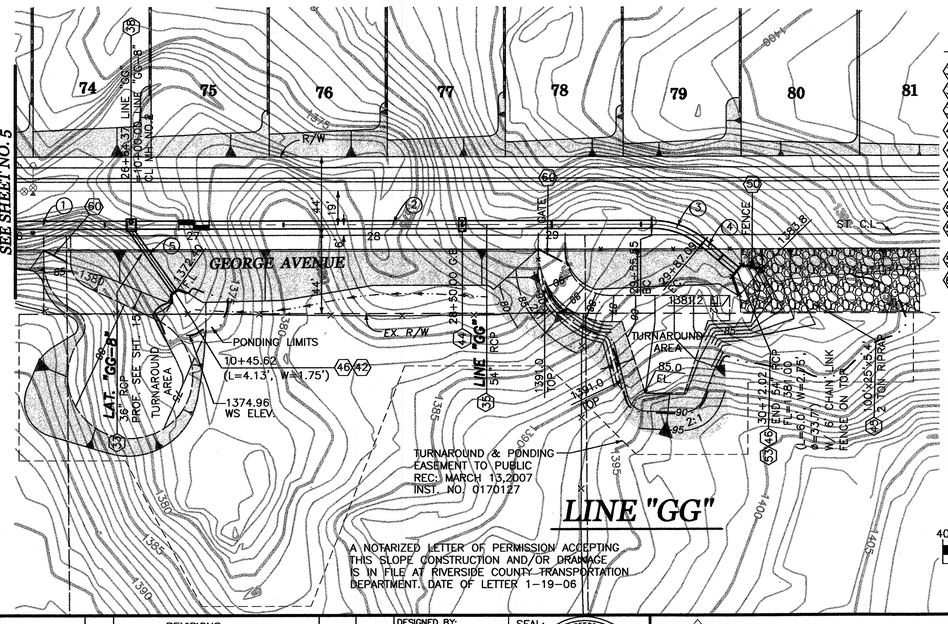
PROJECT NO. 7-0-00234
DRAWING NO. 7-404
SHEET NO. 14 OF 16

FILED MAR 19 2008
ORIGINAL

* **NOTE:**
"THE CONCRETE COATING ON THE INSIDE OF ALL REINFORCED CONCRETE PIPES MUST BE INCREASED TO PROVIDE A MINIMUM OF 1-1/2" OVER THE REINFORCING WHEN THE DESIGN VELOCITIES EXCEED 20 FEET PER SECOND. THE CONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE F'C = 5,000 PSI FOR VELOCITIES EXCEEDING 20 FEET PER SECOND AND F'C = 6,000 PSI FOR VELOCITIES EXCEEDING 30 FPS."

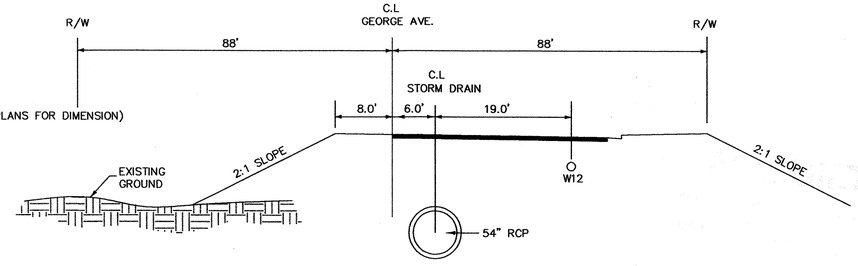






CONSTRUCTION NOTES:

(33) CONSTRUCT 36" R.C.P. (D-1500)
(35) CONSTRUCT 54" R.C.P. (D-1500)
(39) CONSTRUCT MANHOLE NO.2 PER R.C.F.C.D. STD. MH252
(42) CONSTRUCT HEADWALL PER CALTRANS STD. D86B (SEE PLANS FOR DIMENSION)
(44) CONSTRUCT CONCRETE COLLAR PER R.C.F.C.D STD. M803
(45) CONSTRUCT RIPRAP (SIZES AS PER PLAN)
(46) CONSTRUCT TRASH RACK PER DETAIL ON SHEET 10
(50) CONSTRUCT CHAIN LINK FENCE
(53) CONSTRUCT HEADWALL PER CALTRANS STD. D90A (SEE PLAN FOR DIMENSION)
(53) CONSTRUCT HEADWALL PER CALTRANS STD. D90A
(60) CONSTRUCT PIPE SWING GATE PER R.C.F.C.D. STD. M820



SECTION @ 27+00.00
TYPICAL SECTION FROM
TYPICAL FROM STA. 26+00.00 TO 30+12.02

DATA TABLE

NO	BRG /DELTA	RADIUS	TANGENT	LENGTH	B.C	E.C
(1)	N01°12'37"W	–	–	62.56'	–	–
(2)	N01°12'37"W	–	–	328.63'	–	–
(3)	39°46'54"	45.00'	16.28'	31.24'	29+55.85	29+87.10
(4)	N38°34'17"E	–	–	24.92'	–	–
(5)	N53°44'01"E	–	–	43.53'	–	–

GRAPHIC SCALE
40 0 20 40 80 120
(IN FEET)
1 inch = 40 ft.

NOTE:
INSTALL 1100-N/15/300 MIRAFI FILTER FABRIC ON ALL RIPRAP

INFORMATIONAL NOTE
ALL X-SECTION TAKEN LOOKING DOWN STREAM

10 0 10

AS BUILT
APPROVED BY: Robert T. Murdough
DATE 6/21/2010

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

TRACT NO. 30155 **IP NO. 040232**

BENCHMARK
3" ALUMINUM DISK IN CONC. CYLINDER. FROM THE INT. OF IVY ST. AND WASHINGTON ST., 3.6 MILES N.W. ON WASHINGTON-PALOMAR STS. TO THE INT. OF PALOMAR AND CLINTON KEITH RD.: 0.5 MILE S. ON CLINTON KEITH RD., TO THE INT. OF CLINTON KEITH RD. AND GRAND AVE. IN THE N. COR. OF THE "I" INT., 124.8' W. OF CLINTON KEITH RD. 47.6' N. OF GRAND AVE.: 6' N.E. OF A 1" I.P. WITH PLASTIC PLUG L.S. 2602; 2'S. OF A 6' CHAIN LINK FENCE AROUND A S.C.E. POWER STATION AND R.C.W.D. WELL SITE 10' N. OF P.P. #2075052E; SET FIBERGLASS WITNESS POST 1' NORTH.
ELEV. 1199.072

REF.	REVISIONS	APPR.	DATE

DESIGNED BY:
DRAWN BY:
DATE DRAWN:

SEAL: REGISTERED PROFESSIONAL ENGINEER — PETER J.C. CHAO — No. 31538 — Exp. 12-31-08 — CIVIL — STATE OF CALIFORNIA

CONSULTANTS INC.
CIVIL ENGINEERING • LAND PLANNING • LAND SURVEYING
25096 JEFFERSON AVE.
MURRIETA, CALIFORNIA 92562
TEL. (951) 698-1350
PREPARED BY: PETER J.C. CHAO
R.C.E. NO. 31538
DATE 3/19/07

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: Harold Kimball DATE: 4/17/07
APPROVED BY: Stuart E. McKibbin DATE: 4-18-2007

SEAL: REGISTERED PROFESSIONAL ENGINEER — ALAN FRENCH — No. 45702 — Exp. 12-31-08 — CIVIL — STATE OF CALIFORNIA

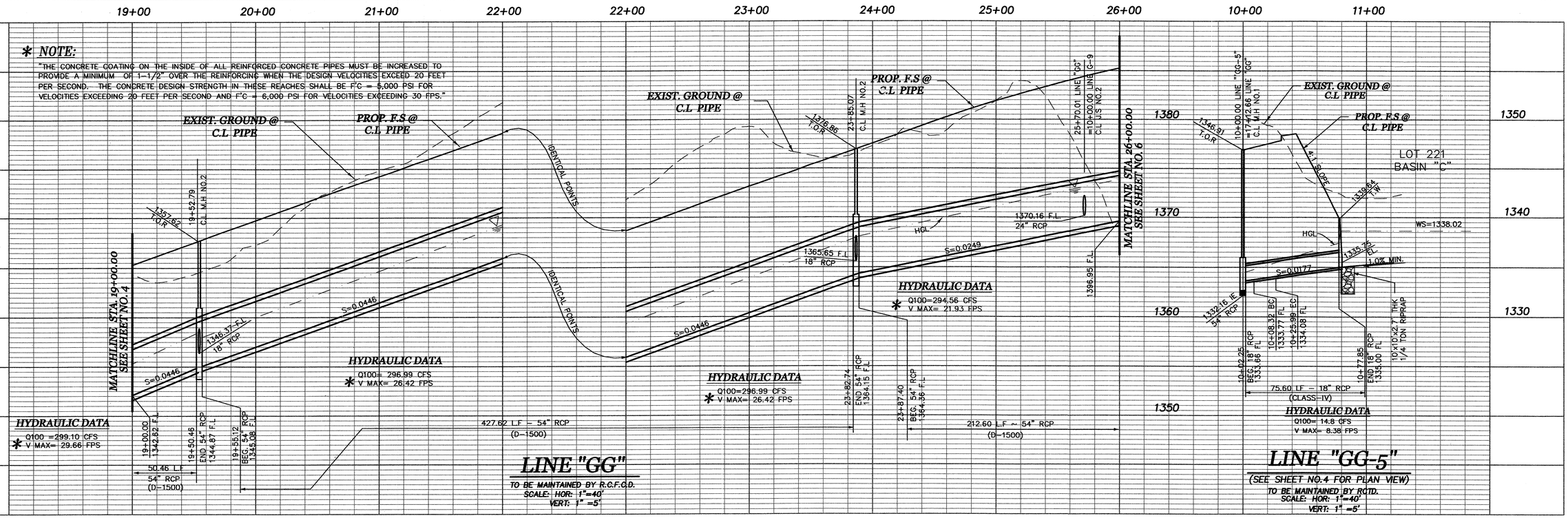
COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT
APPROVED BY: Alan French 3.30.07
ALAN FRENCH DATE
RECOMMENDED BY: PBS&J DATE: 3/22/07

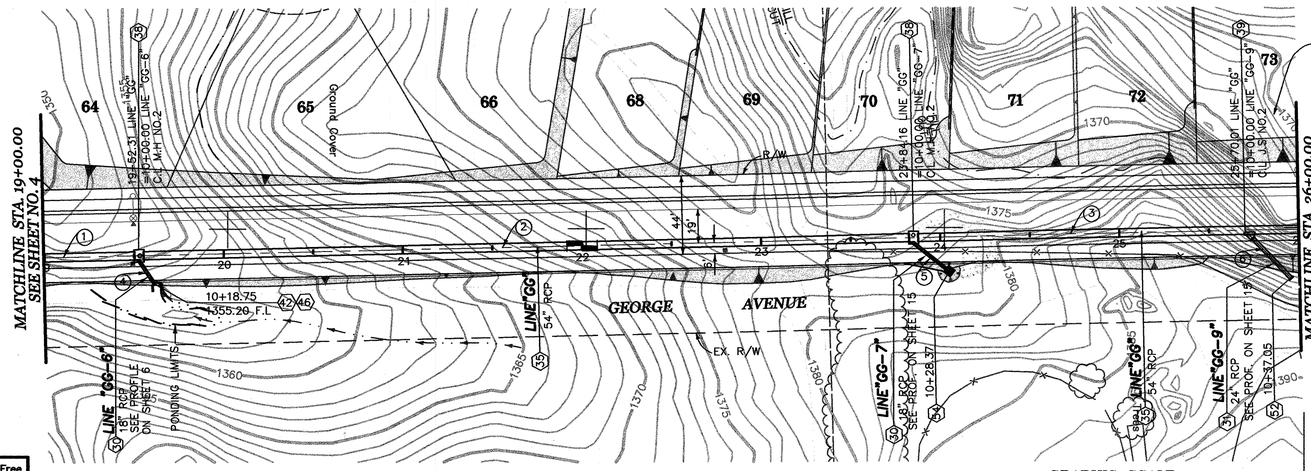
MURRIETA VALLEY - GEORGE AVENUE STORM DRAIN
STA. 21+00.00 TO 30+12.02
LINE "GG" & LAT. "GG-6"

PROJECT NO. 7-0-00234
DRAWING NO. 7-404
SHEET NO. 6 OF 16

FILED MAR 1 9 2007
ORIGINAL

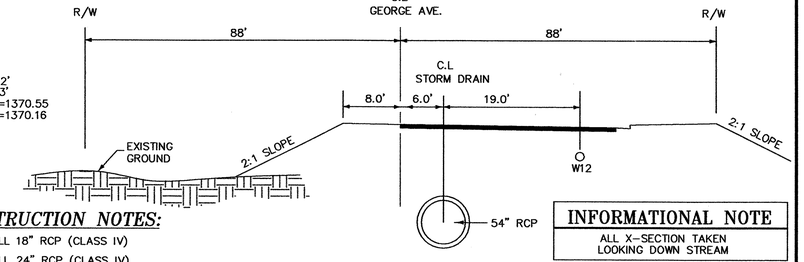
* **NOTE:**
"THE CONCRETE COATING ON THE INSIDE OF ALL REINFORCED CONCRETE PIPES MUST BE INCREASED TO PROVIDE A MINIMUM OF 1-1/2" OVER THE REINFORCING WHEN THE DESIGN VELOCITIES EXCEED 20 FEET PER SECOND. THE CONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE F'C = 5,000 PSI FOR VELOCITIES EXCEEDING 20 FEET PER SECOND AND F'C = 6,000 PSI FOR VELOCITIES EXCEEDING 30 FPS."





LINE "GG"

GRAPHIC SCALE
40 0 20 40 80 120
(IN FEET)
1 inch = 40 ft.



A=47° G=2.22'
B=24° L=3.93'
C=6.42' EL"R"=1370.55
D=54° EL"S"=1370.16
E=4.53'
F=2.71'

CONSTRUCTION NOTES:

(30) INSTALL 18" RCP (CLASS IV)
(31) INSTALL 24" RCP (CLASS IV)
(35) INSTALL 54" RCP (D-1500)
(38) CONSTRUCT MANHOLE NO.2 PER RCFCD STD. MH252
(39) CONSTRUCT JUNCTION STRUCTURE NO.2 PER RCFCD STD.JS227
(42) CONSTRUCT HEADWALL PER CALTRANS STD. D86B
(46) CONSTRUCT TRASH RACK PER DETAIL ON SHEET NO.10
(52) CONSTRUCT CONCRETE BULKHEAD PER R.C.F.C.D. STD. NO.816
(54) CONSTRUCT CONCRETE DROP INLET PER R.C.F.C.D STD. DWG. NO. CB110

INFORMATIONAL NOTE
ALL X-SECTION TAKEN LOOKING DOWN STREAM

SECTION @ 22+00.00
TYPICAL FROM STA. 19+00.00 TO 26+00.00

10 0 10

AS BUILT
APPROVED BY: Robert J. Gilbaugh
DATE 6/22/2010

DATA TABLE

NO	BRG /DELTA	RADIUS	TANGENT	LENGTH	B.C	E.C
(1)	N01°12'37"W	–	–	50.46'	–	–
(2)	N01°12'37"W	–	–	427.62'	–	–
(3)	N01°12'37"W	–	–	212.60'	–	–
(4)	N56°00'02"E	–	–	16.64'	–	–
(5)	N38°13'54"E	–	–	25.05'	–	–
(6)	N45°50'34"E	–	–	37.05'	–	–

Don't Dig...Until You Call U.S.A. Toll Free 1-800-227-2600
for the location of buried utility lines.
Don't disrupt vital services.
TWO WORKING DAYS BEFORE YOU DIG

BENCHMARK
3" ALUMINUM DISK IN CONC. CYLINDER, FROM THE INT. OF IVY ST. AND WASHINGTON ST., 3.6 MILES N.W. ON WASHINGTON-PALOMAR STS. TO THE INT. OF PALOMAR AND CLINTON KEITH RD.; 0.5 MILE S. ON CLINTON KEITH RD., TO THE INT. OF CLINTON KEITH RD. AND GRAND AVE. IN THE N. COR. OF THE "T" INT., 124.8' W. OF CLINTON KEITH RD. 47.6' N. OF GRAND AVE.: 6' N.E. OF A 1" I.P. WITH PLASTIC PLUG L.S. 2602; 2'S. OF A 6' CHAIN LINK FENCE AROUND A S.C.E. POWER STATION AND R.C.W.D. WELL SITE 10' N. OF P.P. #2075052E; SET FIBERGLASS WITNESS POST 1' NORTH.
ELEV. 1199.072

REF.	REVISIONS	APPR.	DATE

DESIGNED BY:
DRAWN BY:
DATE DRAWN:

SEAL: REGISTERED PROFESSIONAL ENGINEER — PETER J.C. CHAO — No. 31538 — Exp. 12-31-08 — CIVIL — STATE OF CALIFORNIA

HJK CONSULTANTS INC.
CIVIL ENGINEERING • LAND PLANNING • LAND SURVEYING
25096 JEFFERSON AVE.
MURRIETA, CALIFORNIA 92562
TEL. (951) 698-1350

PREPARED BY: PETER J.C. CHAO
R.C.E. NO. 31538
DATE 3/19/07

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
RECOMMENDED FOR APPROVAL BY: DATE: 4/17/07
APPROVED BY: DATE: 4.18.2007

SEAL: REGISTERED PROFESSIONAL ENGINEER — ALAN FRENCH — No. 45702 — Exp. 12-31-08 — CIVIL — STATE OF CALIFORNIA

COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT
APPROVED BY: ALAN FRENCH DATE: 3-30-07
RECOMMENDED BY: PBS&J DATE: 3/22/07

TRACT NO. 30155 **IP NO. 040232**

MURRIETA VALLEY - GEORGE AVENUE
STORM DRAIN
STA. 19+00.00 TO 26+00.00
LINE "GG" , LAT."GG-5"

PROJECT NO. 7-0-00234
DRAWING NO. 7-404
SHEET NO. 5 OF 16

ORIGINAL
FILED MAR 19 2007

Technical Appendix F

- ***Unit Hydrograph – Existing***
- ***Unit Hydrograph – Proposed***
- ***Basin Routing Calculations***

UNIT HYDROGRAPH

EXSTING CONDITION

```
       U n i t   H y d r o g r a p h   A n a l y s i s

       Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
              Study date  04/15/22 File: 219994E1100.out


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6310

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------
21-994 WILDOMAR TRAIL
100-YEAR
EXISTING CONDITION
```

1-Year Storm Event

```
------------------------------------------------------------------------
Drainage Area =       8.94(Ac.)  =      0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.94(Ac.)  =      0.014 Sq. Mi.
Length along longest watercourse =     750.00(Ft.)
Length along longest watercourse measured to centroid =     450.00(Ft.)
Length along longest watercourse =      0.142 Mi.
Length along longest watercourse measured to centroid =      0.085 Mi.
Difference in elevation =      26.30(Ft.)
Slope along watercourse =    185.1520 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =    0.050 Hr.
Lag time =     2.99 Min.
25% of lag time =     0.75 Min.
40% of lag time =     1.20 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.94           0.60                 5.36

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.94           1.45                12.96

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.600(In)
Area Averaged 100-Year Rainfall =    1.450(In)

Point rain (area averaged) =    1.450(In)
Areal adjustment factor =   99.99 %
Adjusted average point rain =    1.450(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.940           89.00         0.100
 Total Area Entered =      8.94(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
89.0  89.0      0.141     0.100        0.129       1.000      0.129
                                                  Sum (F) =   0.129
Area averaged mean soil loss (F) (In/Hr) =  0.129
Minimum soil loss rate ((In/Hr)) =  0.064
```

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.820

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	167.022	37.056	3.339
2 0.167	334.045	45.738	4.121
3 0.250	501.067	10.283	0.927
4 0.333	668.089	4.357	0.393
5 0.417	835.111	2.566	0.231
	Sum = 100.000	Sum=	9.010

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1 0.08	4.40	0.766	0.129	(0.628)	0.637
2 0.17	4.50	0.783	0.129	(0.642)	0.654
3 0.25	5.40	0.940	0.129	(0.770)	0.811
4 0.33	5.40	0.940	0.129	(0.770)	0.811
5 0.42	5.70	0.992	0.129	(0.813)	0.863
6 0.50	6.40	1.114	0.129	(0.913)	0.985
7 0.58	7.90	1.374	0.129	(1.127)	1.246
8 0.67	9.10	1.583	0.129	(1.298)	1.455
9 0.75	12.80	2.227	0.129	(1.826)	2.098
10 0.83	25.60	4.454	0.129	(3.652)	4.325
11 0.92	7.90	1.374	0.129	(1.127)	1.246
12 1.00	4.90	0.853	0.129	(0.699)	0.724
	(Loss Rate Not Used)				
Sum =	100.0			Sum =	15.9

Flood volume = Effective rainfall 1.32(In)
times area 8.9(Ac.)/[(In)/(Ft.)] = 1.0(Ac.Ft)
Total soil loss = 0.13(In)
Total soil loss = 0.096(Ac.Ft)
Total rainfall = 1.45(In)
Flood volume = 42876.1 Cubic Feet
Total soil loss = 4175.8 Cubic Feet

Peak flow rate of this hydrograph = 25.166(CFS)

1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 7.5 15.0 22.5 30.0
0+ 5	0.0147	2.13	V Q
0+10	0.0478	4.81	V Q
0+15	0.0891	6.00	V Q
0+20	0.1367	6.91	V Q
0+25	0.1875	7.38	V Q
0+30	0.2431	8.07	VQ
0+35	0.3087	9.53	Q
0+40	0.3875	11.43	Q
0+45	0.4890	14.75	Q
0+50	0.6623	25.17	V
0+55	0.8331	24.80	Q
1+ 0	0.9208	12.72	Q V
1+ 5	0.9643	6.32	Q V
1+10	0.9792	2.16	Q V
1+15	0.9831	0.57	Q V
1+20	0.9843	0.17	Q V

```
       U n i t   H y d r o g r a p h   A n a l y s i s

       Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
              Study date  04/15/22 File: 219994E3100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6310

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------
21-994 WILDOMAR TRAIL
100-YEAR
EXISTING CONDITION
```

3-Year Storm Event

```
------------------------------------------------------------------------
Drainage Area =       8.94(Ac.)  =      0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.94(Ac.)  =      0.014 Sq. Mi.
Length along longest watercourse =     750.00(Ft.)
Length along longest watercourse measured to centroid =     450.00(Ft.)
Length along longest watercourse =      0.142 Mi.
Length along longest watercourse measured to centroid =      0.085 Mi.
Difference in elevation =      26.30(Ft.)
Slope along watercourse =    185.1520 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =    0.050 Hr.
Lag time =     2.99 Min.
25% of lag time =     0.75 Min.
40% of lag time =     1.20 Min.
Unit time =     5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.94           1.05                 9.39

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.94           2.55                22.80

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.050(In)
Area Averaged 100-Year Rainfall =    2.550(In)

Point rain (area averaged) =    2.550(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.550(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.940           89.00         0.100
 Total Area Entered =      8.94(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
89.0  89.0      0.141     0.100        0.129       1.000      0.129
                                                 Sum (F) =   0.129
Area averaged mean soil loss (F) (In/Hr) =  0.129
Minimum soil loss rate ((In/Hr)) =  0.064
```

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.820

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	167.022	37.056	3.339
2	0.167	334.045	45.738	4.121
3	0.250	501.067	10.283	0.927
4	0.333	668.089	4.357	0.393
5	0.417	835.111	2.566	0.231
		Sum = 100.000	Sum=	9.010

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.398	0.129	(0.326)	0.269
2	0.17	1.30	0.398	0.129	(0.326)	0.269
3	0.25	1.10	0.337	0.129	(0.276)	0.208
4	0.33	1.50	0.459	0.129	(0.376)	0.330
5	0.42	1.50	0.459	0.129	(0.376)	0.330
6	0.50	1.80	0.551	0.129	(0.452)	0.422
7	0.58	1.50	0.459	0.129	(0.376)	0.330
8	0.67	1.80	0.551	0.129	(0.452)	0.422
9	0.75	1.80	0.551	0.129	(0.452)	0.422
10	0.83	1.50	0.459	0.129	(0.376)	0.330
11	0.92	1.60	0.490	0.129	(0.401)	0.361
12	1.00	1.80	0.551	0.129	(0.452)	0.422
13	1.08	2.20	0.673	0.129	(0.552)	0.544
14	1.17	2.20	0.673	0.129	(0.552)	0.544
15	1.25	2.20	0.673	0.129	(0.552)	0.544
16	1.33	2.00	0.612	0.129	(0.502)	0.483
17	1.42	2.60	0.796	0.129	(0.652)	0.667
18	1.50	2.70	0.826	0.129	(0.677)	0.697
19	1.58	2.40	0.734	0.129	(0.602)	0.606
20	1.67	2.70	0.826	0.129	(0.677)	0.697
21	1.75	3.30	1.010	0.129	(0.828)	0.881
22	1.83	3.10	0.949	0.129	(0.778)	0.820
23	1.92	2.90	0.887	0.129	(0.728)	0.759
24	2.00	3.00	0.918	0.129	(0.753)	0.789
25	2.08	3.10	0.949	0.129	(0.778)	0.820
26	2.17	4.20	1.285	0.129	(1.054)	1.156
27	2.25	5.00	1.530	0.129	(1.255)	1.401
28	2.33	3.50	1.071	0.129	(0.878)	0.942
29	2.42	6.80	2.081	0.129	(1.706)	1.952
30	2.50	7.30	2.234	0.129	(1.832)	2.105
31	2.58	8.20	2.509	0.129	(2.057)	2.380
32	2.67	5.90	1.805	0.129	(1.480)	1.677
33	2.75	2.00	0.612	0.129	(0.502)	0.483
34	2.83	1.80	0.551	0.129	(0.452)	0.422
35	2.92	1.80	0.551	0.129	(0.452)	0.422
36	3.00	0.60	0.184	0.129	(0.151)	0.055
		(Loss Rate Not Used)			
Sum =		100.0			Sum = 26.0

Flood volume = Effective rainfall 2.16(In)
times area 8.9(Ac.)/[(In)/(Ft.)] = 1.6(Ac.Ft)
Total soil loss = 0.39(In)
Total soil loss = 0.288(Ac.Ft)
Total rainfall = 2.55(In)
Flood volume = 70222.6 Cubic Feet
Total soil loss = 12527.3 Cubic Feet

Peak flow rate of this hydrograph = 19.135(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0062	0.90	VQ
0+10	0.0200	2.01	V Q
0+15	0.0342	2.05	V Q
0+20	0.0501	2.32	V Q
0+25	0.0696	2.83	V Q
0+30	0.0918	3.22	V Q
0+35	0.1147	3.33	V Q
0+40	0.1379	3.37	V Q
0+45	0.1634	3.70	V Q
0+50	0.1872	3.46	V Q
0+55	0.2093	3.20	VQ
1+ 0	0.2331	3.47	VQ
1+ 5	0.2615	4.12	V Q
1+10	0.2937	4.67	V Q
1+15	0.3269	4.82	VQ
1+20	0.3591	4.68	VQ
1+25	0.3940	5.06	VQ
1+30	0.4344	5.87	VQ
1+35	0.4745	5.83	Q
1+40	0.5148	5.85	QV
1+45	0.5617	6.81	Q
1+50	0.6128	7.42	QV
1+55	0.6620	7.15	Q V
2+ 0	0.7104	7.03	Q V
2+ 5	0.7602	7.22	Q V
2+10	0.8185	8.46	Q V
2+15	0.8921	10.69	QV
2+20	0.9644	10.50	Q V
2+25	1.0495	12.35	Q V
2+30	1.1650	16.77	V Q
2+35	1.2968	19.13	V Q
2+40	1.4232	18.35	VQ
2+45	1.5059	12.01	Q V
2+50	1.5498	6.38	Q V
2+55	1.5829	4.81	Q V
3+ 0	1.6029	2.89	Q V
3+ 5	1.6090	0.90	Q V
3+10	1.6112	0.31	Q V
3+15	1.6120	0.12	Q V
3+20	1.6121	0.01	Q V

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 04/15/22 File: 219994E6100.out

++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

21-994 WILDOMAR TRAIL
100-YEAR
EXISTING CONDITION

Drainage Area = 8.94(Ac.) = 0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 8.94(Ac.) = 0.014 Sq. Mi.
Length along longest watercourse = 750.00(Ft.)
Length along longest watercourse measured to centroid = 450.00(Ft.)
Length along longest watercourse = 0.142 Mi.
Length along longest watercourse measured to centroid = 0.085 Mi.
Difference in elevation = 26.30(Ft.)
Slope along watercourse = 185.1520 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time = 0.050 Hr.
Lag time = 2.99 Min.
25% of lag time = 0.75 Min.
40% of lag time = 1.20 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.94	1.50	13.41

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
8.94	3.60	32.18

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.500(In)
Area Averaged 100-Year Rainfall = 3.600(In)

Point rain (area averaged) = 3.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
8.940	89.00	0.100

Total Area Entered = 8.94(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
89.0	89.0	0.141	0.100	0.129	1.000	0.129
					Sum (F) =	0.129

Area averaged mean soil loss (F) (In/Hr) = 0.129
Minimum soil loss rate ((In/Hr)) = 0.064

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.820

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	167.022	37.056	3.339
2	0.167	334.045	45.738	4.121
3	0.250	501.067	10.283	0.927
4	0.333	668.089	4.357	0.393
5	0.417	835.111	2.566	0.231
		Sum =	100.000 Sum=	9.010

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.216	0.129	(	0.177)	0.087
2	0.17	0.60	0.259	0.129	(	0.213)	0.131
3	0.25	0.60	0.259	0.129	(	0.213)	0.131
4	0.33	0.60	0.259	0.129	(	0.213)	0.131
5	0.42	0.60	0.259	0.129	(	0.213)	0.131
6	0.50	0.70	0.302	0.129	(	0.248)	0.174
7	0.58	0.70	0.302	0.129	(	0.248)	0.174
8	0.67	0.70	0.302	0.129	(	0.248)	0.174
9	0.75	0.70	0.302	0.129	(	0.248)	0.174
10	0.83	0.70	0.302	0.129	(	0.248)	0.174
11	0.92	0.70	0.302	0.129	(	0.248)	0.174
12	1.00	0.80	0.346	0.129	(	0.283)	0.217
13	1.08	0.80	0.346	0.129	(	0.283)	0.217
14	1.17	0.80	0.346	0.129	(	0.283)	0.217
15	1.25	0.80	0.346	0.129	(	0.283)	0.217
16	1.33	0.80	0.346	0.129	(	0.283)	0.217
17	1.42	0.80	0.346	0.129	(	0.283)	0.217
18	1.50	0.80	0.346	0.129	(	0.283)	0.217
19	1.58	0.80	0.346	0.129	(	0.283)	0.217
20	1.67	0.80	0.346	0.129	(	0.283)	0.217
21	1.75	0.80	0.346	0.129	(	0.283)	0.217
22	1.83	0.80	0.346	0.129	(	0.283)	0.217
23	1.92	0.80	0.346	0.129	(	0.283)	0.217
24	2.00	0.90	0.389	0.129	(	0.319)	0.260
25	2.08	0.80	0.346	0.129	(	0.283)	0.217
26	2.17	0.90	0.389	0.129	(	0.319)	0.260
27	2.25	0.90	0.389	0.129	(	0.319)	0.260
28	2.33	0.90	0.389	0.129	(	0.319)	0.260
29	2.42	0.90	0.389	0.129	(	0.319)	0.260
30	2.50	0.90	0.389	0.129	(	0.319)	0.260
31	2.58	0.90	0.389	0.129	(	0.319)	0.260
32	2.67	0.90	0.389	0.129	(	0.319)	0.260
33	2.75	1.00	0.432	0.129	(	0.354)	0.303
34	2.83	1.00	0.432	0.129	(	0.354)	0.303
35	2.92	1.00	0.432	0.129	(	0.354)	0.303
36	3.00	1.00	0.432	0.129	(	0.354)	0.303
37	3.08	1.00	0.432	0.129	(	0.354)	0.303
38	3.17	1.10	0.475	0.129	(	0.390)	0.347
39	3.25	1.10	0.475	0.129	(	0.390)	0.347
40	3.33	1.10	0.475	0.129	(	0.390)	0.347
41	3.42	1.20	0.518	0.129	(	0.425)	0.390
42	3.50	1.30	0.562	0.129	(	0.460)	0.433
43	3.58	1.40	0.605	0.129	(	0.496)	0.476
44	3.67	1.40	0.605	0.129	(	0.496)	0.476
45	3.75	1.50	0.648	0.129	(	0.531)	0.519
46	3.83	1.50	0.648	0.129	(	0.531)	0.519
47	3.92	1.60	0.691	0.129	(	0.567)	0.563
48	4.00	1.60	0.691	0.129	(	0.567)	0.563
49	4.08	1.70	0.734	0.129	(	0.602)	0.606
50	4.17	1.80	0.778	0.129	(	0.638)	0.649
51	4.25	1.90	0.821	0.129	(	0.673)	0.692
52	4.33	2.00	0.864	0.129	(	0.708)	0.735
53	4.42	2.10	0.907	0.129	(	0.744)	0.778

```
54   4.50     2.10      0.907          0.129    (  0.744)        0.778
55   4.58     2.20      0.950          0.129    (  0.779)        0.822
56   4.67     2.30      0.994          0.129    (  0.815)        0.865
57   4.75     2.40      1.037          0.129    (  0.850)        0.908
58   4.83     2.40      1.037          0.129    (  0.850)        0.908
59   4.92     2.50      1.080          0.129    (  0.886)        0.951
60   5.00     2.60      1.123          0.129    (  0.921)        0.994
61   5.08     3.10      1.339          0.129    (  1.098)        1.210
62   5.17     3.60      1.555          0.129    (  1.275)        1.426
63   5.25     3.90      1.685          0.129    (  1.381)        1.556
64   5.33     4.20      1.814          0.129    (  1.488)        1.686
65   5.42     4.70      2.030          0.129    (  1.665)        1.902
66   5.50     5.60      2.419          0.129    (  1.984)        2.290
67   5.58     1.90      0.821          0.129    (  0.673)        0.692
68   5.67     0.90      0.389          0.129    (  0.319)        0.260
69   5.75     0.60      0.259          0.129    (  0.213)        0.131
70   5.83     0.50      0.216          0.129    (  0.177)        0.087
71   5.92     0.30      0.130       (  0.129)       0.106        0.023
72   6.00     0.20      0.086       (  0.129)       0.071        0.016
              (Loss Rate Not Used)
   Sum =     100.0                                  Sum =    34.0
      Flood volume = Effective rainfall      2.83(In)
       times area       8.9(Ac.)/[(In)/(Ft.)] =       2.1(Ac.Ft)
      Total soil loss =      0.77(In)
      Total soil loss =     0.570(Ac.Ft)
      Total rainfall =      3.60(In)
      Flood volume =       91986.8 Cubic Feet
      Total soil loss =       24837.5 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =     17.995(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        5.0      10.0      15.0      20.0
-------------------------------------------------------------------------
  0+ 5       0.0020      0.29  Q         |         |         |         |
  0+10       0.0075      0.80  VQ        |         |         |         |
  0+15       0.0148      1.06  V Q       |         |         |         |
  0+20       0.0225      1.13  V Q       |         |         |         |
  0+25       0.0306      1.17  V Q       |         |         |         |
  0+30       0.0397      1.32  V Q       |         |         |         |
  0+35       0.0500      1.50  V Q       |         |         |         |
  0+40       0.0606      1.54  |V Q       |         |         |         |
  0+45       0.0713      1.56  |V Q       |         |         |         |
  0+50       0.0821      1.57  |V Q       |         |         |         |
  0+55       0.0929      1.57  |V Q       |         |         |         |
  1+ 0       0.1047      1.71  |V Q       |         |         |         |
  1+ 5       0.1177      1.89  | VQ       |         |         |         |
  1+10       0.1309      1.93  | VQ       |         |         |         |
  1+15       0.1443      1.95  | VQ       |         |         |         |
  1+20       0.1578      1.96  | VQ       |         |         |         |
  1+25       0.1713      1.96  |  Q       |         |         |         |
  1+30       0.1847      1.96  |  Q       |         |         |         |
  1+35       0.1982      1.96  |  Q       |         |         |         |
  1+40       0.2117      1.96  |  QV      |         |         |         |
  1+45       0.2251      1.96  |  QV      |         |         |         |
  1+50       0.2386      1.96  |  QV      |         |         |         |
  1+55       0.2521      1.96  |  QV      |         |         |         |
  2+ 0       0.2665      2.10  |   QV     |         |         |         |
  2+ 5       0.2812      2.13  |   QV     |         |         |         |
  2+10       0.2960      2.14  |   QV     |         |         |         |
  2+15       0.3118      2.29  |   QV     |         |         |         |
  2+20       0.3278      2.33  |   Q V    |         |         |         |
  2+25       0.3439      2.33  |   Q V    |         |         |         |
  2+30       0.3600      2.34  |   Q V    |         |         |         |
  2+35       0.3762      2.34  |   Q  V   |         |         |         |
  2+40       0.3923      2.34  |   Q  V   |         |         |         |
  2+45       0.4095      2.49  |   Q  V   |         |         |         |
  2+50       0.4278      2.67  |    Q  V  |         |         |         |
  2+55       0.4465      2.71  |    Q  V  |         |         |         |
  3+ 0       0.4652      2.72  |    Q  V  |         |         |         |
  3+ 5       0.4841      2.73  |    Q   V|         |         |         |
  3+10       0.5039      2.88  |    Q   V|         |         |         |
  3+15       0.5250      3.06  |     Q  V|         |         |         |
```

```
   3+20       0.5463      3.10  |     Q   V         |         |         |
   3+25       0.5687      3.26  |     Q   V         |         |         |
   3+30       0.5934      3.59  |      Q  |V        |         |         |
   3+35       0.6207      3.95  |      Q  |V        |         |         |
   3+40       0.6495      4.19  |       Q | V       |         |         |
   3+45       0.6798      4.40  |       Q | V       |         |         |
   3+50       0.7115      4.60  |        Q|  V      |         |         |
   3+55       0.7446      4.80  |        Q|   V     |         |         |
   4+ 0       0.7790      4.99  |        Q|   V     |         |         |
   4+ 5       0.8147      5.19  |         Q    V    |         |         |
   4+10       0.8528      5.53  |         |Q    V   |         |         |
   4+15       0.8934      5.90  |         |Q    V   |         |         |
   4+20       0.9366      6.28  |         | Q    V  |         |         |
   4+25       0.9826      6.67  |         |  Q    V |         |         |
   4+30       1.0302      6.91  |         |  Q     V|         |         |
   4+35       1.0792      7.13  |         |   Q     V         |         |
   4+40       1.1307      7.47  |         |   Q     |V        |         |
   4+45       1.1848      7.85  |         |    Q    | V       |         |
   4+50       1.2404      8.08  |         |     Q   |  V      |         |
   4+55       1.2975      8.29  |         |     Q   |   V     |         |
   5+ 0       1.3571      8.64  |         |      Q  |    V    |         |
   5+ 5       1.4231      9.59  |         |        Q|     V   |         |
   5+10       1.5007     11.26  |         |         | Q     V |         |
   5+15       1.5889     12.81  |         |         |    Q    V         |
   5+20       1.6859     14.07  |         |         |       Q |V        |
   5+25       1.7932     15.59  |         |         |         |Q V      |
   5+30       1.9171     18.00  |         |         |         |    QV   |
   5+35       2.0173     14.54  |         |         |        Q|       V |
   5+40       2.0654      6.98  |         |  Q      |         |        V|
   5+45       2.0894      3.49  |     Q   |         |         |        V|
   5+50       2.1023      1.87  |  Q      |         |         |        V|
   5+55       2.1079      0.82  |Q        |         |         |        V|
   6+ 0       2.1103      0.34  Q         |         |         |        V|
   6+ 5       2.1113      0.15  Q         |         |         |        V|
   6+10       2.1116      0.04  Q         |         |         |        V|
   6+15       2.1117      0.01  Q         |         |         |        V|
   6+20       2.1117      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

```
       U n i t   H y d r o g r a p h   A n a l y s i s

       Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
              Study date  04/15/22 File: 219994E24100.out


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6310

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------
21-994 WILDOMAR TRAIL
100-YEAR
EXISTING CONDITION
```

24-Year Storm Event

```
------------------------------------------------------------------------
Drainage Area =       8.94(Ac.)  =      0.014 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       8.94(Ac.)  =      0.014 Sq. Mi.
Length along longest watercourse =     750.00(Ft.)
Length along longest watercourse measured to centroid =     450.00(Ft.)
Length along longest watercourse =      0.142 Mi.
Length along longest watercourse measured to centroid =      0.085 Mi.
Difference in elevation =      26.30(Ft.)
Slope along watercourse =    185.1520 Ft./Mi.
Average Manning's 'N' = 0.030
Lag time =    0.050 Hr.
Lag time =     2.99 Min.
25% of lag time =     0.75 Min.
40% of lag time =     1.20 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.94           2.70                 24.14

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        8.94           7.50                 67.05

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.700(In)
Area Averaged 100-Year Rainfall =    7.500(In)

Point rain (area averaged) =    7.500(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    7.500(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     8.940           89.00         0.100
 Total Area Entered =      8.94(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
89.0  89.0      0.141     0.100        0.129       1.000      0.129
                                                 Sum (F) =   0.129
Area averaged mean soil loss (F) (In/Hr) =  0.129
Minimum soil loss rate ((In/Hr)) =  0.064
```

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.820

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	167.022	37.056	3.339
2	0.167	334.045	45.738	4.121
3	0.250	501.067	10.283	0.927
4	0.333	668.089	4.357	0.393
5	0.417	835.111	2.566	0.231
		Sum =	100.000 Sum=	9.010

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.060	(0.228)	0.049	0.011
2	0.17	0.07	0.060	(0.227)	0.049	0.011
3	0.25	0.07	0.060	(0.226)	0.049	0.011
4	0.33	0.10	0.090	(0.225)	0.074	0.016
5	0.42	0.10	0.090	(0.225)	0.074	0.016
6	0.50	0.10	0.090	(0.224)	0.074	0.016
7	0.58	0.10	0.090	(0.223)	0.074	0.016
8	0.67	0.10	0.090	(0.222)	0.074	0.016
9	0.75	0.10	0.090	(0.221)	0.074	0.016
10	0.83	0.13	0.120	(0.220)	0.098	0.022
11	0.92	0.13	0.120	(0.219)	0.098	0.022
12	1.00	0.13	0.120	(0.218)	0.098	0.022
13	1.08	0.10	0.090	(0.218)	0.074	0.016
14	1.17	0.10	0.090	(0.217)	0.074	0.016
15	1.25	0.10	0.090	(0.216)	0.074	0.016
16	1.33	0.10	0.090	(0.215)	0.074	0.016
17	1.42	0.10	0.090	(0.214)	0.074	0.016
18	1.50	0.10	0.090	(0.213)	0.074	0.016
19	1.58	0.10	0.090	(0.212)	0.074	0.016
20	1.67	0.10	0.090	(0.212)	0.074	0.016
21	1.75	0.10	0.090	(0.211)	0.074	0.016
22	1.83	0.13	0.120	(0.210)	0.098	0.022
23	1.92	0.13	0.120	(0.209)	0.098	0.022
24	2.00	0.13	0.120	(0.208)	0.098	0.022
25	2.08	0.13	0.120	(0.207)	0.098	0.022
26	2.17	0.13	0.120	(0.207)	0.098	0.022
27	2.25	0.13	0.120	(0.206)	0.098	0.022
28	2.33	0.13	0.120	(0.205)	0.098	0.022
29	2.42	0.13	0.120	(0.204)	0.098	0.022
30	2.50	0.13	0.120	(0.203)	0.098	0.022
31	2.58	0.17	0.150	(0.202)	0.123	0.027
32	2.67	0.17	0.150	(0.202)	0.123	0.027
33	2.75	0.17	0.150	(0.201)	0.123	0.027
34	2.83	0.17	0.150	(0.200)	0.123	0.027
35	2.92	0.17	0.150	(0.199)	0.123	0.027
36	3.00	0.17	0.150	(0.198)	0.123	0.027
37	3.08	0.17	0.150	(0.197)	0.123	0.027
38	3.17	0.17	0.150	(0.197)	0.123	0.027
39	3.25	0.17	0.150	(0.196)	0.123	0.027
40	3.33	0.17	0.150	(0.195)	0.123	0.027
41	3.42	0.17	0.150	(0.194)	0.123	0.027
42	3.50	0.17	0.150	(0.193)	0.123	0.027
43	3.58	0.17	0.150	(0.193)	0.123	0.027
44	3.67	0.17	0.150	(0.192)	0.123	0.027
45	3.75	0.17	0.150	(0.191)	0.123	0.027
46	3.83	0.20	0.180	(0.190)	0.148	0.032
47	3.92	0.20	0.180	(0.189)	0.148	0.032
48	4.00	0.20	0.180	(0.189)	0.148	0.032
49	4.08	0.20	0.180	(0.188)	0.148	0.032
50	4.17	0.20	0.180	(0.187)	0.148	0.032
51	4.25	0.20	0.180	(0.186)	0.148	0.032
52	4.33	0.23	0.210	(0.185)	0.172	0.038
53	4.42	0.23	0.210	(0.185)	0.172	0.038

54	4.50	0.23	0.210	(0.184)	0.172	0.038
55	4.58	0.23	0.210	(0.183)	0.172	0.038
56	4.67	0.23	0.210	(0.182)	0.172	0.038
57	4.75	0.23	0.210	(0.181)	0.172	0.038
58	4.83	0.27	0.240	0.181	(0.197)	0.059
59	4.92	0.27	0.240	0.180	(0.197)	0.060
60	5.00	0.27	0.240	0.179	(0.197)	0.061
61	5.08	0.20	0.180	(0.178)	0.148	0.032
62	5.17	0.20	0.180	(0.177)	0.148	0.032
63	5.25	0.20	0.180	(0.177)	0.148	0.032
64	5.33	0.23	0.210	(0.176)	0.172	0.038
65	5.42	0.23	0.210	(0.175)	0.172	0.038
66	5.50	0.23	0.210	(0.174)	0.172	0.038
67	5.58	0.27	0.240	0.174	(0.197)	0.066
68	5.67	0.27	0.240	0.173	(0.197)	0.067
69	5.75	0.27	0.240	0.172	(0.197)	0.068
70	5.83	0.27	0.240	0.171	(0.197)	0.069
71	5.92	0.27	0.240	0.171	(0.197)	0.069
72	6.00	0.27	0.240	0.170	(0.197)	0.070
73	6.08	0.30	0.270	0.169	(0.221)	0.101
74	6.17	0.30	0.270	0.168	(0.221)	0.102
75	6.25	0.30	0.270	0.168	(0.221)	0.102
76	6.33	0.30	0.270	0.167	(0.221)	0.103
77	6.42	0.30	0.270	0.166	(0.221)	0.104
78	6.50	0.30	0.270	0.165	(0.221)	0.105
79	6.58	0.33	0.300	0.165	(0.246)	0.135
80	6.67	0.33	0.300	0.164	(0.246)	0.136
81	6.75	0.33	0.300	0.163	(0.246)	0.137
82	6.83	0.33	0.300	0.162	(0.246)	0.138
83	6.92	0.33	0.300	0.162	(0.246)	0.138
84	7.00	0.33	0.300	0.161	(0.246)	0.139
85	7.08	0.33	0.300	0.160	(0.246)	0.140
86	7.17	0.33	0.300	0.159	(0.246)	0.141
87	7.25	0.33	0.300	0.159	(0.246)	0.141
88	7.33	0.37	0.330	0.158	(0.271)	0.172
89	7.42	0.37	0.330	0.157	(0.271)	0.173
90	7.50	0.37	0.330	0.157	(0.271)	0.173
91	7.58	0.40	0.360	0.156	(0.295)	0.204
92	7.67	0.40	0.360	0.155	(0.295)	0.205
93	7.75	0.40	0.360	0.154	(0.295)	0.206
94	7.83	0.43	0.390	0.154	(0.320)	0.236
95	7.92	0.43	0.390	0.153	(0.320)	0.237
96	8.00	0.43	0.390	0.152	(0.320)	0.238
97	8.08	0.50	0.450	0.152	(0.369)	0.298
98	8.17	0.50	0.450	0.151	(0.369)	0.299
99	8.25	0.50	0.450	0.150	(0.369)	0.300
100	8.33	0.50	0.450	0.149	(0.369)	0.301
101	8.42	0.50	0.450	0.149	(0.369)	0.301
102	8.50	0.50	0.450	0.148	(0.369)	0.302
103	8.58	0.53	0.480	0.147	(0.394)	0.333
104	8.67	0.53	0.480	0.147	(0.394)	0.333
105	8.75	0.53	0.480	0.146	(0.394)	0.334
106	8.83	0.57	0.510	0.145	(0.418)	0.365
107	8.92	0.57	0.510	0.145	(0.418)	0.365
108	9.00	0.57	0.510	0.144	(0.418)	0.366
109	9.08	0.63	0.570	0.143	(0.467)	0.427
110	9.17	0.63	0.570	0.143	(0.467)	0.427
111	9.25	0.63	0.570	0.142	(0.467)	0.428
112	9.33	0.67	0.600	0.141	(0.492)	0.459
113	9.42	0.67	0.600	0.141	(0.492)	0.459
114	9.50	0.67	0.600	0.140	(0.492)	0.460
115	9.58	0.70	0.630	0.139	(0.517)	0.491
116	9.67	0.70	0.630	0.139	(0.517)	0.491
117	9.75	0.70	0.630	0.138	(0.517)	0.492
118	9.83	0.73	0.660	0.137	(0.541)	0.523
119	9.92	0.73	0.660	0.137	(0.541)	0.523
120	10.00	0.73	0.660	0.136	(0.541)	0.524
121	10.08	0.50	0.450	0.135	(0.369)	0.315
122	10.17	0.50	0.450	0.135	(0.369)	0.315
123	10.25	0.50	0.450	0.134	(0.369)	0.316
124	10.33	0.50	0.450	0.133	(0.369)	0.317
125	10.42	0.50	0.450	0.133	(0.369)	0.317
126	10.50	0.50	0.450	0.132	(0.369)	0.318
127	10.58	0.67	0.600	0.131	(0.492)	0.469
128	10.67	0.67	0.600	0.131	(0.492)	0.469
129	10.75	0.67	0.600	0.130	(0.492)	0.470
130	10.83	0.67	0.600	0.129	(0.492)	0.471
131	10.92	0.67	0.600	0.129	(0.492)	0.471
132	11.00	0.67	0.600	0.128	(0.492)	0.472

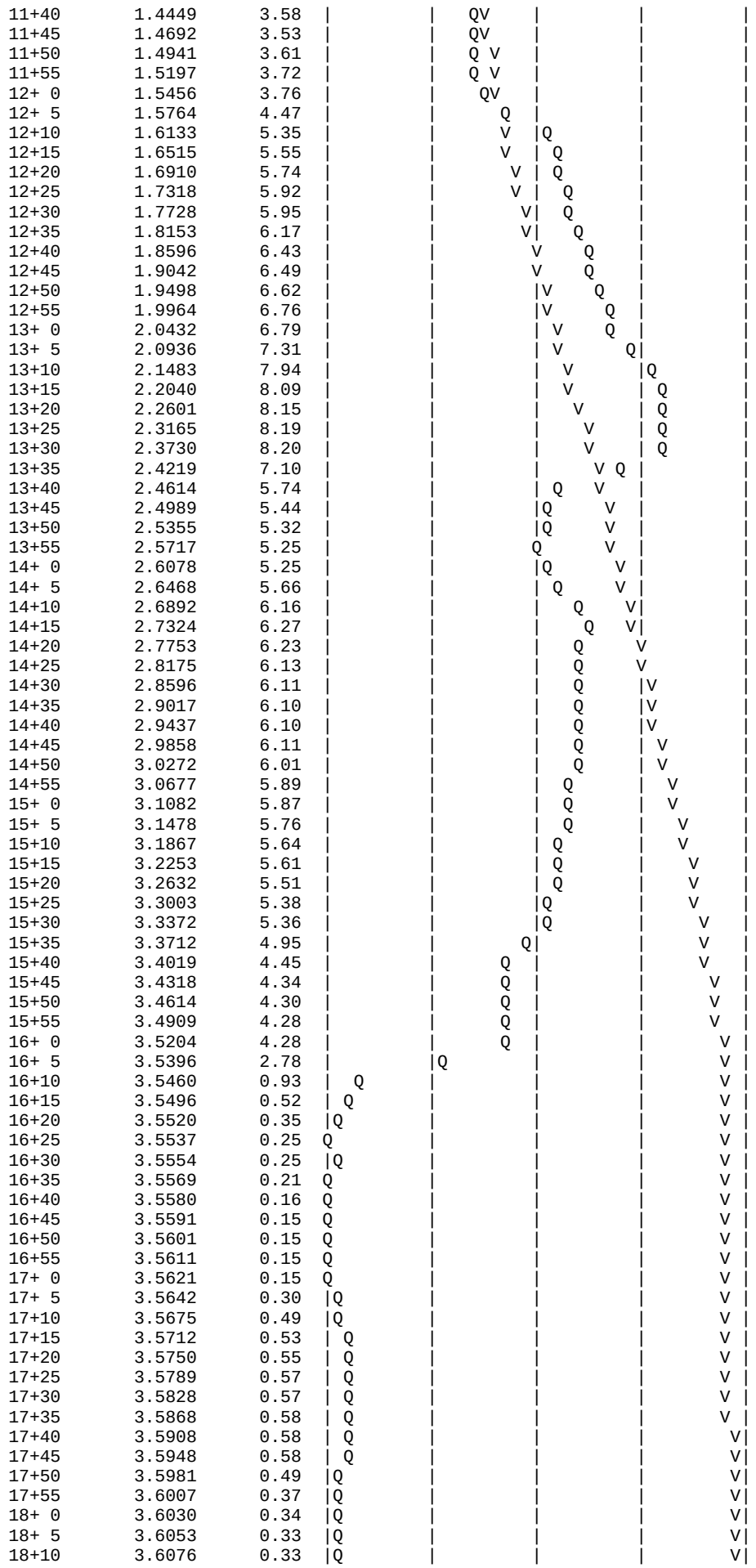
133	11.08	0.63	0.570	0.128	(0.467)	0.442
134	11.17	0.63	0.570	0.127	(0.467)	0.443
135	11.25	0.63	0.570	0.126	(0.467)	0.444
136	11.33	0.63	0.570	0.126	(0.467)	0.444
137	11.42	0.63	0.570	0.125	(0.467)	0.445
138	11.50	0.63	0.570	0.124	(0.467)	0.446
139	11.58	0.57	0.510	0.124	(0.418)	0.386
140	11.67	0.57	0.510	0.123	(0.418)	0.387
141	11.75	0.57	0.510	0.123	(0.418)	0.387
142	11.83	0.60	0.540	0.122	(0.443)	0.418
143	11.92	0.60	0.540	0.121	(0.443)	0.419
144	12.00	0.60	0.540	0.121	(0.443)	0.419
145	12.08	0.83	0.750	0.120	(0.615)	0.630
146	12.17	0.83	0.750	0.120	(0.615)	0.630
147	12.25	0.83	0.750	0.119	(0.615)	0.631
148	12.33	0.87	0.780	0.118	(0.640)	0.662
149	12.42	0.87	0.780	0.118	(0.640)	0.662
150	12.50	0.87	0.780	0.117	(0.640)	0.663
151	12.58	0.93	0.840	0.117	(0.689)	0.723
152	12.67	0.93	0.840	0.116	(0.689)	0.724
153	12.75	0.93	0.840	0.115	(0.689)	0.725
154	12.83	0.97	0.870	0.115	(0.713)	0.755
155	12.92	0.97	0.870	0.114	(0.713)	0.756
156	13.00	0.97	0.870	0.114	(0.713)	0.756
157	13.08	1.13	1.020	0.113	(0.836)	0.907
158	13.17	1.13	1.020	0.112	(0.836)	0.908
159	13.25	1.13	1.020	0.112	(0.836)	0.908
160	13.33	1.13	1.020	0.111	(0.836)	0.909
161	13.42	1.13	1.020	0.111	(0.836)	0.909
162	13.50	1.13	1.020	0.110	(0.836)	0.910
163	13.58	0.77	0.690	0.110	(0.566)	0.580
164	13.67	0.77	0.690	0.109	(0.566)	0.581
165	13.75	0.77	0.690	0.109	(0.566)	0.581
166	13.83	0.77	0.690	0.108	(0.566)	0.582
167	13.92	0.77	0.690	0.107	(0.566)	0.583
168	14.00	0.77	0.690	0.107	(0.566)	0.583
169	14.08	0.90	0.810	0.106	(0.664)	0.704
170	14.17	0.90	0.810	0.106	(0.664)	0.704
171	14.25	0.90	0.810	0.105	(0.664)	0.705
172	14.33	0.87	0.780	0.105	(0.640)	0.675
173	14.42	0.87	0.780	0.104	(0.640)	0.676
174	14.50	0.87	0.780	0.104	(0.640)	0.676
175	14.58	0.87	0.780	0.103	(0.640)	0.677
176	14.67	0.87	0.780	0.103	(0.640)	0.677
177	14.75	0.87	0.780	0.102	(0.640)	0.678
178	14.83	0.83	0.750	0.102	(0.615)	0.648
179	14.92	0.83	0.750	0.101	(0.615)	0.649
180	15.00	0.83	0.750	0.100	(0.615)	0.649
181	15.08	0.80	0.720	0.100	(0.590)	0.620
182	15.17	0.80	0.720	0.099	(0.590)	0.621
183	15.25	0.80	0.720	0.099	(0.590)	0.621
184	15.33	0.77	0.690	0.098	(0.566)	0.592
185	15.42	0.77	0.690	0.098	(0.566)	0.592
186	15.50	0.77	0.690	0.097	(0.566)	0.593
187	15.58	0.63	0.570	0.097	(0.467)	0.473
188	15.67	0.63	0.570	0.096	(0.467)	0.474
189	15.75	0.63	0.570	0.096	(0.467)	0.474
190	15.83	0.63	0.570	0.095	(0.467)	0.475
191	15.92	0.63	0.570	0.095	(0.467)	0.475
192	16.00	0.63	0.570	0.094	(0.467)	0.475
193	16.08	0.13	0.120	0.094	(0.098)	0.026
194	16.17	0.13	0.120	0.094	(0.098)	0.026
195	16.25	0.13	0.120	0.093	(0.098)	0.027
196	16.33	0.13	0.120	0.093	(0.098)	0.027
197	16.42	0.13	0.120	0.092	(0.098)	0.028
198	16.50	0.13	0.120	0.092	(0.098)	0.028
199	16.58	0.10	0.090	(0.091)	0.074	0.016
200	16.67	0.10	0.090	(0.091)	0.074	0.016
201	16.75	0.10	0.090	(0.090)	0.074	0.016
202	16.83	0.10	0.090	(0.090)	0.074	0.016
203	16.92	0.10	0.090	(0.089)	0.074	0.016
204	17.00	0.10	0.090	(0.089)	0.074	0.016
205	17.08	0.17	0.150	0.088	(0.123)	0.062
206	17.17	0.17	0.150	0.088	(0.123)	0.062
207	17.25	0.17	0.150	0.088	(0.123)	0.062
208	17.33	0.17	0.150	0.087	(0.123)	0.063
209	17.42	0.17	0.150	0.087	(0.123)	0.063
210	17.50	0.17	0.150	0.086	(0.123)	0.064
211	17.58	0.17	0.150	0.086	(0.123)	0.064

212	17.67	0.17	0.150		0.085	(	0.123)	0.065
213	17.75	0.17	0.150		0.085	(	0.123)	0.065
214	17.83	0.13	0.120		0.085	(	0.098)	0.035
215	17.92	0.13	0.120		0.084	(	0.098)	0.036
216	18.00	0.13	0.120		0.084	(	0.098)	0.036
217	18.08	0.13	0.120		0.083	(	0.098)	0.037
218	18.17	0.13	0.120		0.083	(	0.098)	0.037
219	18.25	0.13	0.120		0.082	(	0.098)	0.038
220	18.33	0.13	0.120		0.082	(	0.098)	0.038
221	18.42	0.13	0.120		0.082	(	0.098)	0.038
222	18.50	0.13	0.120		0.081	(	0.098)	0.039
223	18.58	0.10	0.090	(	0.081)		0.074	0.016
224	18.67	0.10	0.090	(	0.080)		0.074	0.016
225	18.75	0.10	0.090	(	0.080)		0.074	0.016
226	18.83	0.07	0.060	(	0.080)		0.049	0.011
227	18.92	0.07	0.060	(	0.079)		0.049	0.011
228	19.00	0.07	0.060	(	0.079)		0.049	0.011
229	19.08	0.10	0.090	(	0.079)		0.074	0.016
230	19.17	0.10	0.090	(	0.078)		0.074	0.016
231	19.25	0.10	0.090	(	0.078)		0.074	0.016
232	19.33	0.13	0.120		0.077	(	0.098)	0.043
233	19.42	0.13	0.120		0.077	(	0.098)	0.043
234	19.50	0.13	0.120		0.077	(	0.098)	0.043
235	19.58	0.10	0.090	(	0.076)		0.074	0.016
236	19.67	0.10	0.090	(	0.076)		0.074	0.016
237	19.75	0.10	0.090	(	0.076)		0.074	0.016
238	19.83	0.07	0.060	(	0.075)		0.049	0.011
239	19.92	0.07	0.060	(	0.075)		0.049	0.011
240	20.00	0.07	0.060	(	0.075)		0.049	0.011
241	20.08	0.10	0.090	(	0.074)		0.074	0.016
242	20.17	0.10	0.090	(	0.074)		0.074	0.016
243	20.25	0.10	0.090		0.074	(	0.074)	0.016
244	20.33	0.10	0.090		0.073	(	0.074)	0.017
245	20.42	0.10	0.090		0.073	(	0.074)	0.017
246	20.50	0.10	0.090		0.073	(	0.074)	0.017
247	20.58	0.10	0.090		0.072	(	0.074)	0.018
248	20.67	0.10	0.090		0.072	(	0.074)	0.018
249	20.75	0.10	0.090		0.072	(	0.074)	0.018
250	20.83	0.07	0.060	(	0.072)		0.049	0.011
251	20.92	0.07	0.060	(	0.071)		0.049	0.011
252	21.00	0.07	0.060	(	0.071)		0.049	0.011
253	21.08	0.10	0.090		0.071	(	0.074)	0.019
254	21.17	0.10	0.090		0.070	(	0.074)	0.020
255	21.25	0.10	0.090		0.070	(	0.074)	0.020
256	21.33	0.07	0.060	(	0.070)		0.049	0.011
257	21.42	0.07	0.060	(	0.070)		0.049	0.011
258	21.50	0.07	0.060	(	0.069)		0.049	0.011
259	21.58	0.10	0.090		0.069	(	0.074)	0.021
260	21.67	0.10	0.090		0.069	(	0.074)	0.021
261	21.75	0.10	0.090		0.069	(	0.074)	0.021
262	21.83	0.07	0.060	(	0.068)		0.049	0.011
263	21.92	0.07	0.060	(	0.068)		0.049	0.011
264	22.00	0.07	0.060	(	0.068)		0.049	0.011
265	22.08	0.10	0.090		0.068	(	0.074)	0.022
266	22.17	0.10	0.090		0.067	(	0.074)	0.023
267	22.25	0.10	0.090		0.067	(	0.074)	0.023
268	22.33	0.07	0.060	(	0.067)		0.049	0.011
269	22.42	0.07	0.060	(	0.067)		0.049	0.011
270	22.50	0.07	0.060	(	0.067)		0.049	0.011
271	22.58	0.07	0.060	(	0.066)		0.049	0.011
272	22.67	0.07	0.060	(	0.066)		0.049	0.011
273	22.75	0.07	0.060	(	0.066)		0.049	0.011
274	22.83	0.07	0.060	(	0.066)		0.049	0.011
275	22.92	0.07	0.060	(	0.066)		0.049	0.011
276	23.00	0.07	0.060	(	0.066)		0.049	0.011
277	23.08	0.07	0.060	(	0.065)		0.049	0.011
278	23.17	0.07	0.060	(	0.065)		0.049	0.011
279	23.25	0.07	0.060	(	0.065)		0.049	0.011
280	23.33	0.07	0.060	(	0.065)		0.049	0.011
281	23.42	0.07	0.060	(	0.065)		0.049	0.011
282	23.50	0.07	0.060	(	0.065)		0.049	0.011
283	23.58	0.07	0.060	(	0.065)		0.049	0.011
284	23.67	0.07	0.060	(	0.065)		0.049	0.011
285	23.75	0.07	0.060	(	0.065)		0.049	0.011
286	23.83	0.07	0.060	(	0.064)		0.049	0.011
287	23.92	0.07	0.060	(	0.064)		0.049	0.011
288	24.00	0.07	0.060	(	0.064)		0.049	0.011
		(Loss Rate Not Used)						
	Sum =	100.0					Sum =	59.3

```
      Flood volume = Effective rainfall      4.94(In)
       times area       8.9(Ac.)/[(In)/(Ft.)] =       3.7(Ac.Ft)
      Total soil loss =      2.56(In)
      Total soil loss =     1.906(Ac.Ft)
      Total rainfall =      7.50(In)
      Flood volume =      160368.0 Cubic Feet
      Total soil loss =       83019.2 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      8.197(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0002      0.04  Q         |         |         |         |
  0+10       0.0008      0.08  Q         |         |         |         |
  0+15       0.0014      0.09  Q         |         |         |         |
  0+20       0.0022      0.11  Q         |         |         |         |
  0+25       0.0032      0.14  Q         |         |         |         |
  0+30       0.0041      0.14  Q         |         |         |         |
  0+35       0.0051      0.14  Q         |         |         |         |
  0+40       0.0061      0.15  Q         |         |         |         |
  0+45       0.0071      0.15  Q         |         |         |         |
  0+50       0.0083      0.16  Q         |         |         |         |
  0+55       0.0096      0.19  Q         |         |         |         |
  1+ 0       0.0109      0.19  Q         |         |         |         |
  1+ 5       0.0121      0.18  Q         |         |         |         |
  1+10       0.0131      0.15  Q         |         |         |         |
  1+15       0.0142      0.15  Q         |         |         |         |
  1+20       0.0152      0.15  Q         |         |         |         |
  1+25       0.0162      0.15  Q         |         |         |         |
  1+30       0.0172      0.15  Q         |         |         |         |
  1+35       0.0182      0.15  Q         |         |         |         |
  1+40       0.0192      0.15  Q         |         |         |         |
  1+45       0.0202      0.15  Q         |         |         |         |
  1+50       0.0213      0.16  Q         |         |         |         |
  1+55       0.0226      0.19  Q         |         |         |         |
  2+ 0       0.0239      0.19  Q         |         |         |         |
  2+ 5       0.0253      0.19  Q         |         |         |         |
  2+10       0.0266      0.19  Q         |         |         |         |
  2+15       0.0280      0.19  Q         |         |         |         |
  2+20       0.0293      0.19  Q         |         |         |         |
  2+25       0.0306      0.19  Q         |         |         |         |
  2+30       0.0320      0.19  Q         |         |         |         |
  2+35       0.0335      0.21  Q         |         |         |         |
  2+40       0.0351      0.24  Q         |         |         |         |
  2+45       0.0367      0.24  Q         |         |         |         |
  2+50       0.0384      0.24  Q         |         |         |         |
  2+55       0.0401      0.24  Q         |         |         |         |
  3+ 0       0.0417      0.24  Q         |         |         |         |
  3+ 5       0.0434      0.24  Q         |         |         |         |
  3+10       0.0451      0.24  Q         |         |         |         |
  3+15       0.0468      0.24  Q         |         |         |         |
  3+20       0.0484      0.24  Q         |         |         |         |
  3+25       0.0501      0.24  Q         |         |         |         |
  3+30       0.0518      0.24  Q         |         |         |         |
  3+35       0.0535      0.24  Q         |         |         |         |
  3+40       0.0552      0.24  Q         |         |         |         |
  3+45       0.0568      0.24  Q         |         |         |         |
  3+50       0.0586      0.26  VQ        |         |         |         |
  3+55       0.0606      0.28  VQ        |         |         |         |
  4+ 0       0.0626      0.29  VQ        |         |         |         |
  4+ 5       0.0646      0.29  VQ        |         |         |         |
  4+10       0.0666      0.29  VQ        |         |         |         |
  4+15       0.0686      0.29  VQ        |         |         |         |
  4+20       0.0707      0.31  VQ        |         |         |         |
  4+25       0.0730      0.33  VQ        |         |         |         |
  4+30       0.0753      0.34  VQ        |         |         |         |
  4+35       0.0777      0.34  VQ        |         |         |         |
  4+40       0.0800      0.34  VQ        |         |         |         |
  4+45       0.0824      0.34  VQ        |         |         |         |
  4+50       0.0852      0.41  VQ        |         |         |         |
  4+55       0.0887      0.50  V Q       |         |         |         |
  5+ 0       0.0923      0.53  |VQ       |         |         |         |
```

```
 5+ 5       0.0954      0.45  |Q        |         |         |         |
 5+10       0.0977      0.34  |Q        |         |         |         |
 5+15       0.0999      0.31  |Q        |         |         |         |
 5+20       0.1021      0.32  |Q        |         |         |         |
 5+25       0.1043      0.33  |Q        |         |         |         |
 5+30       0.1067      0.34  |Q        |         |         |         |
 5+35       0.1097      0.43  |Q        |         |         |         |
 5+40       0.1135      0.56  |VQ       |         |         |         |
 5+45       0.1175      0.59  |VQ       |         |         |         |
 5+50       0.1217      0.61  |VQ       |         |         |         |
 5+55       0.1260      0.62  |VQ       |         |         |         |
 6+ 0       0.1303      0.63  |VQ       |         |         |         |
 6+ 5       0.1354      0.73  |VQ       |         |         |         |
 6+10       0.1413      0.86  |V Q      |         |         |         |
 6+15       0.1475      0.90  |V Q      |         |         |         |
 6+20       0.1538      0.92  |V Q      |         |         |         |
 6+25       0.1602      0.93  |V Q      |         |         |         |
 6+30       0.1667      0.94  |V Q      |         |         |         |
 6+35       0.1739      1.04  |V  Q     |         |         |         |
 6+40       0.1819      1.17  |V  Q     |         |         |         |
 6+45       0.1903      1.21  | V Q     |         |         |         |
 6+50       0.1987      1.23  | V Q     |         |         |         |
 6+55       0.2073      1.24  | V Q     |         |         |         |
 7+ 0       0.2159      1.25  | V Q     |         |         |         |
 7+ 5       0.2245      1.25  | V  Q    |         |         |         |
 7+10       0.2332      1.26  | V  Q    |         |         |         |
 7+15       0.2419      1.27  | V  Q    |         |         |         |
 7+20       0.2514      1.37  | V  Q    |         |         |         |
 7+25       0.2617      1.50  | V   Q   |         |         |         |
 7+30       0.2723      1.54  | V   Q   |         |         |         |
 7+35       0.2838      1.66  |  V  Q   |         |         |         |
 7+40       0.2961      1.79  |  V   Q  |         |         |         |
 7+45       0.3087      1.83  |  V   Q  |         |         |         |
 7+50       0.3221      1.95  |  V   Q  |         |         |         |
 7+55       0.3365      2.08  |  V    Q |         |         |         |
 8+ 0       0.3511      2.12  |  V    Q |         |         |         |
 8+ 5       0.3672      2.34  |  V     Q|         |         |         |
 8+10       0.3850      2.60  |   V     Q         |         |         |
 8+15       0.4034      2.66  |   V     Q         |         |         |
 8+20       0.4219      2.69  |   V     Q         |         |         |
 8+25       0.4406      2.71  |   V     Q         |         |         |
 8+30       0.4593      2.72  |   V     Q         |         |         |
 8+35       0.4787      2.82  |    V    |Q        |         |         |
 8+40       0.4990      2.95  |    V    |Q        |         |         |
 8+45       0.5196      2.99  |    V    |Q        |         |         |
 8+50       0.5410      3.10  |    V    | Q       |         |         |
 8+55       0.5633      3.24  |     V   | Q       |         |         |
 9+ 0       0.5859      3.28  |     V   |  Q      |         |         |
 9+ 5       0.6099      3.49  |     V   |  Q      |         |         |
 9+10       0.6358      3.75  |     V   |    Q    |         |         |
 9+15       0.6621      3.82  |      V  |    Q    |         |         |
 9+20       0.6892      3.95  |      V  |    Q    |         |         |
 9+25       0.7174      4.09  |      V  |     Q   |         |         |
 9+30       0.7458      4.12  |       V |     Q   |         |         |
 9+35       0.7750      4.24  |       V |     Q   |         |         |
 9+40       0.8052      4.38  |       V |      Q  |         |         |
 9+45       0.8356      4.41  |        V|      Q  |         |         |
 9+50       0.8668      4.53  |        V|       Q |         |         |
 9+55       0.8989      4.67  |        V|       Q |         |         |
10+ 0       0.9313      4.70  |         V       Q |         |         |
10+ 5       0.9589      4.02  |         V     Q   |         |         |
10+10       0.9807      3.16  |         V Q       |         |         |
10+15       1.0012      2.98  |         VQ        |         |         |
10+20       1.0212      2.90  |         |Q        |         |         |
10+25       1.0408      2.86  |         |Q        |         |         |
10+30       1.0606      2.86  |         |Q        |         |         |
10+35       1.0838      3.37  |         |V Q      |         |         |
10+40       1.1113      3.99  |         | V  Q    |         |         |
10+45       1.1397      4.14  |         | V   Q   |         |         |
10+50       1.1687      4.20  |         | V   Q   |         |         |
10+55       1.1979      4.24  |         |  V  Q   |         |         |
11+ 0       1.2272      4.25  |         |  V  Q   |         |         |
11+ 5       1.2558      4.15  |         |  V  Q   |         |         |
11+10       1.2836      4.04  |         |  V  Q   |         |         |
11+15       1.3112      4.01  |         |   V Q   |         |         |
11+20       1.3388      4.01  |         |   V Q   |         |         |
11+25       1.3664      4.01  |         |   V Q   |         |         |
11+30       1.3940      4.01  |         |    VQ   |         |         |
11+35       1.4203      3.82  |         |    Q    |         |         |
```



11+40	1.4449	3.58	|	QV	|	|	|
11+45	1.4692	3.53	|	QV	|	|	|
11+50	1.4941	3.61	|	Q V	|	|	|
11+55	1.5197	3.72	|	Q V	|	|	|
12+ 0	1.5456	3.76	|	QV	|	|	|
12+ 5	1.5764	4.47	|	Q	|	|	|
12+10	1.6133	5.35	|	V	|Q	|	|
12+15	1.6515	5.55	|	V	| Q	|	|
12+20	1.6910	5.74	|	V	| Q	|	|
12+25	1.7318	5.92	|	V	| Q	|	|
12+30	1.7728	5.95	|	V	| Q	|	|
12+35	1.8153	6.17	|	V	| Q	|	|
12+40	1.8596	6.43	|	V	Q	|	|
12+45	1.9042	6.49	|	V	Q	|	|
12+50	1.9498	6.62	|	V	Q	|	|
12+55	1.9964	6.76	|	V	Q	|	|
13+ 0	2.0432	6.79	|	V	Q	|	|
13+ 5	2.0936	7.31	|	V	Q|	|	|
13+10	2.1483	7.94	|	V	|Q	|	|
13+15	2.2040	8.09	|	V	| Q	|	|
13+20	2.2601	8.15	|	V	| Q	|	|
13+25	2.3165	8.19	|	V	| Q	|	|
13+30	2.3730	8.20	|	V	| Q	|	|
13+35	2.4219	7.10	|	V Q	|	|	|
13+40	2.4614	5.74	|	Q V	|	|	|
13+45	2.4989	5.44	|	Q V	|	|	|
13+50	2.5355	5.32	|	Q V	|	|	|
13+55	2.5717	5.25	|	Q V	|	|	|
14+ 0	2.6078	5.25	|	Q V	|	|	|
14+ 5	2.6468	5.66	|	Q V	|	|	|
14+10	2.6892	6.16	|	Q V	|	|	|
14+15	2.7324	6.27	|	Q V	|	|	|
14+20	2.7753	6.23	|	Q V	|	|	|
14+25	2.8175	6.13	|	Q V	|	|	|
14+30	2.8596	6.11	|	Q	|V	|	|
14+35	2.9017	6.10	|	Q	|V	|	|
14+40	2.9437	6.10	|	Q	|V	|	|
14+45	2.9858	6.11	|	Q	| V	|	|
14+50	3.0272	6.01	|	Q	| V	|	|
14+55	3.0677	5.89	|	Q	| V	|	|
15+ 0	3.1082	5.87	|	Q	| V	|	|
15+ 5	3.1478	5.76	|	Q	| V	|	|
15+10	3.1867	5.64	|	Q	| V	|	|
15+15	3.2253	5.61	|	Q	| V	|	|
15+20	3.2632	5.51	|	Q	| V	|	|
15+25	3.3003	5.38	|	Q	| V	|	|
15+30	3.3372	5.36	|	Q	| V	|	|
15+35	3.3712	4.95	|	Q	| V	|	|
15+40	3.4019	4.45	|	Q	| V	|	|
15+45	3.4318	4.34	|	Q	| V	|	|
15+50	3.4614	4.30	|	Q	| V	|	|
15+55	3.4909	4.28	|	Q	| V	|	|
16+ 0	3.5204	4.28	|	Q	| V	|	|
16+ 5	3.5396	2.78	|Q	|	| V	|	|
16+10	3.5460	0.93	| Q	|	| V	|	|
16+15	3.5496	0.52	| Q	|	| V	|	|
16+20	3.5520	0.35	|Q	|	| V	|	|
16+25	3.5537	0.25	Q	|	| V	|	|
16+30	3.5554	0.25	|Q	|	| V	|	|
16+35	3.5569	0.21	Q	|	| V	|	|
16+40	3.5580	0.16	Q	|	| V	|	|
16+45	3.5591	0.15	Q	|	| V	|	|
16+50	3.5601	0.15	Q	|	| V	|	|
16+55	3.5611	0.15	Q	|	| V	|	|
17+ 0	3.5621	0.15	Q	|	| V	|	|
17+ 5	3.5642	0.30	|Q	|	| V	|	|
17+10	3.5675	0.49	|Q	|	| V	|	|
17+15	3.5712	0.53	| Q	|	| V	|	|
17+20	3.5750	0.55	| Q	|	| V	|	|
17+25	3.5789	0.57	| Q	|	| V	|	|
17+30	3.5828	0.57	| Q	|	| V	|	|
17+35	3.5868	0.58	| Q	|	| V	|	|
17+40	3.5908	0.58	| Q	|	| V	|	V|
17+45	3.5948	0.58	| Q	|	| V	|	V|
17+50	3.5981	0.49	|Q	|	| V	|	V|
17+55	3.6007	0.37	|Q	|	| V	|	V|
18+ 0	3.6030	0.34	|Q	|	| V	|	V|
18+ 5	3.6053	0.33	|Q	|	| V	|	V|
18+10	3.6076	0.33	|Q	|	| V	|	V|

```
  18+15       3.6099      0.34  |Q        |         |         |        V|
  18+20       3.6122      0.34  |Q        |         |         |        V|
  18+25       3.6146      0.34  |Q        |         |         |        V|
  18+30       3.6170      0.35  |Q        |         |         |        V|
  18+35       3.6189      0.27  |Q        |         |         |        V|
  18+40       3.6201      0.18  Q         |         |         |        V|
  18+45       3.6212      0.16  Q         |         |         |        V|
  18+50       3.6221      0.13  Q         |         |         |        V|
  18+55       3.6229      0.11  Q         |         |         |        V|
  19+ 0       3.6235      0.10  Q         |         |         |        V|
  19+ 5       3.6243      0.12  Q         |         |         |        V|
  19+10       3.6253      0.14  Q         |         |         |        V|
  19+15       3.6263      0.14  Q         |         |         |        V|
  19+20       3.6279      0.23  Q         |         |         |        V|
  19+25       3.6302      0.34  |Q        |         |         |        V|
  19+30       3.6328      0.37  |Q        |         |         |        V|
  19+35       3.6348      0.29  |Q        |         |         |        V|
  19+40       3.6361      0.19  Q         |         |         |        V|
  19+45       3.6372      0.16  Q         |         |         |        V|
  19+50       3.6382      0.13  Q         |         |         |        V|
  19+55       3.6389      0.11  Q         |         |         |        V|
  20+ 0       3.6396      0.10  Q         |         |         |        V|
  20+ 5       3.6404      0.12  Q         |         |         |        V|
  20+10       3.6413      0.14  Q         |         |         |        V|
  20+15       3.6423      0.14  Q         |         |         |        V|
  20+20       3.6433      0.15  Q         |         |         |        V|
  20+25       3.6443      0.15  Q         |         |         |        V|
  20+30       3.6454      0.15  Q         |         |         |        V|
  20+35       3.6465      0.16  Q         |         |         |        V|
  20+40       3.6476      0.16  Q         |         |         |        V|
  20+45       3.6487      0.16  Q         |         |         |        V|
  20+50       3.6496      0.14  Q         |         |         |        V|
  20+55       3.6504      0.11  Q         |         |         |        V|
  21+ 0       3.6511      0.10  Q         |         |         |        V|
  21+ 5       3.6519      0.13  Q         |         |         |        V|
  21+10       3.6531      0.16  Q         |         |         |        V|
  21+15       3.6542      0.17  Q         |         |         |        V|
  21+20       3.6552      0.15  Q         |         |         |        V|
  21+25       3.6560      0.11  Q         |         |         |        V|
  21+30       3.6567      0.10  Q         |         |         |        V|
  21+35       3.6576      0.13  Q         |         |         |        V|
  21+40       3.6588      0.17  Q         |         |         |        V|
  21+45       3.6601      0.18  Q         |         |         |        V|
  21+50       3.6612      0.15  Q         |         |         |        V|
  21+55       3.6619      0.11  Q         |         |         |        V|
  22+ 0       3.6627      0.10  Q         |         |         |        V|
  22+ 5       3.6636      0.14  Q         |         |         |        V|
  22+10       3.6649      0.18  Q         |         |         |        V|
  22+15       3.6662      0.20  Q         |         |         |        V|
  22+20       3.6673      0.16  Q         |         |         |        V|
  22+25       3.6681      0.12  Q         |         |         |        V|
  22+30       3.6689      0.10  Q         |         |         |        V|
  22+35       3.6695      0.10  Q         |         |         |        V|
  22+40       3.6702      0.10  Q         |         |         |        V|
  22+45       3.6709      0.10  Q         |         |         |        V|
  22+50       3.6716      0.10  Q         |         |         |        V|
  22+55       3.6722      0.10  Q         |         |         |        V|
  23+ 0       3.6729      0.10  Q         |         |         |        V|
  23+ 5       3.6736      0.10  Q         |         |         |        V|
  23+10       3.6742      0.10  Q         |         |         |        V|
  23+15       3.6749      0.10  Q         |         |         |        V|
  23+20       3.6756      0.10  Q         |         |         |        V|
  23+25       3.6762      0.10  Q         |         |         |        V|
  23+30       3.6769      0.10  Q         |         |         |        V|
  23+35       3.6776      0.10  Q         |         |         |        V|
  23+40       3.6783      0.10  Q         |         |         |        V|
  23+45       3.6789      0.10  Q         |         |         |        V|
  23+50       3.6796      0.10  Q         |         |         |        V|
  23+55       3.6803      0.10  Q         |         |         |        V|
  24+ 0       3.6809      0.10  Q         |         |         |        V|
  24+ 5       3.6814      0.06  Q         |         |         |        V|
  24+10       3.6815      0.02  Q         |         |         |        V|
  24+15       3.6815      0.01  Q         |         |         |        V|
  24+20       3.6815      0.00  Q         |         |         |         V
-------------------------------------------------------------------------
```

UNIT HYDROGRAPH
PROPOSED CONDITION

```
       U n i t   H y d r o g r a p h   A n a l y s i s

       Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
              Study date  04/18/22 File: 21994PA1100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6310

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------
21-994 WILDOMAR TRAIL
DRAINAGE AREA A - COMMERICAL
100-YEAR STORM EVENT
```

1-Year Storm Event

```
------------------------------------------------------------------------
Drainage Area =       4.40(Ac.)  =      0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       4.40(Ac.)  =      0.007 Sq. Mi.
Length along longest watercourse =     795.00(Ft.)
Length along longest watercourse measured to centroid =     450.00(Ft.)
Length along longest watercourse =      0.151 Mi.
Length along longest watercourse measured to centroid =      0.085 Mi.
Difference in elevation =      17.50(Ft.)
Slope along watercourse =    116.2264 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.028 Hr.
Lag time =     1.67 Min.
25% of lag time =     0.42 Min.
40% of lag time =     0.67 Min.
Unit time =     5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.40           0.60                 2.64

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.40           1.45                 6.38

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    0.600(In)
Area Averaged 100-Year Rainfall =    1.450(In)

Point rain (area averaged) =    1.450(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    1.450(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.400           75.00         0.900
 Total Area Entered =      4.40(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
75.0  75.0      0.303     0.900        0.058       1.000      0.058
                                                 Sum (F) =   0.058
Area averaged mean soil loss (F) (In/Hr) =  0.058
Minimum soil loss rate ((In/Hr)) =  0.029
```

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	299.065	56.584	2.509
2 0.167	598.130	37.180	1.649
3 0.250	897.195	6.236	0.277
	Sum = 100.000	Sum=	4.434

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1 0.08	4.40	0.766	0.058	(0.138)	0.708
2 0.17	4.50	0.783	0.058	(0.141)	0.725
3 0.25	5.40	0.940	0.058	(0.169)	0.882
4 0.33	5.40	0.940	0.058	(0.169)	0.882
5 0.42	5.70	0.992	0.058	(0.179)	0.934
6 0.50	6.40	1.114	0.058	(0.200)	1.056
7 0.58	7.90	1.375	0.058	(0.247)	1.317
8 0.67	9.10	1.583	0.058	(0.285)	1.526
9 0.75	12.80	2.227	0.058	(0.401)	2.170
10 0.83	25.60	4.454	0.058	(0.802)	4.397
11 0.92	7.90	1.375	0.058	(0.247)	1.317
12 1.00	4.90	0.853	0.058	(0.153)	0.795
	(Loss Rate Not Used)				
Sum =	100.0			Sum =	16.7

Flood volume = Effective rainfall 1.39(In)
times area 4.4(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.06(In)
Total soil loss = 0.021(Ac.Ft)
Total rainfall = 1.45(In)
Flood volume = 22239.0 Cubic Feet
Total soil loss = 919.5 Cubic Feet

Peak flow rate of this hydrograph = 15.038(CFS)

++

1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0122	1.78	V Q
0+10	0.0328	2.99	V Q
0+15	0.0577	3.61	V Q
0+20	0.0843	3.87	VQ
0+25	0.1122	4.04	Q
0+30	0.1427	4.44	Q V
0+35	0.1793	5.31	Q V
0+40	0.2226	6.29	Q V
0+45	0.2800	8.33	Q V
0+50	0.3835	15.04	Q
0+55	0.4604	11.16	Q V
1+ 0	0.4975	5.38	Q V
1+ 5	0.5090	1.68	Q V
1+10	0.5105	0.22	Q V

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 04/18/22 File: 21994PA3100.out

++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

21-994 WILDOMAR TRAIL
DRAINAGE AREA A - COMMERICAL
100-YEAR STORM EVENT

3-Year Storm Event

Drainage Area = 4.40(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.40(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 795.00(Ft.)
Length along longest watercourse measured to centroid = 450.00(Ft.)
Length along longest watercourse = 0.151 Mi.
Length along longest watercourse measured to centroid = 0.085 Mi.
Difference in elevation = 17.50(Ft.)
Slope along watercourse = 116.2264 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.028 Hr.
Lag time = 1.67 Min.
25% of lag time = 0.42 Min.
40% of lag time = 0.67 Min.
Unit time = 5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.40	1.05	4.62

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.40	2.55	11.22

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.050(In)
Area Averaged 100-Year Rainfall = 2.550(In)

Point rain (area averaged) = 2.550(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 2.550(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.400	75.00	0.900

Total Area Entered = 4.40(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	299.065	56.584	2.509
2	0.167	598.130	37.180	1.649
3	0.250	897.195	6.236	0.277
		Sum = 100.000	Sum=	4.434

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	1.30	0.398	0.058	(0.072)	0.340
2	0.17	1.30	0.398	0.058	(0.072)	0.340
3	0.25	1.10	0.337	0.058	(0.061)	0.279
4	0.33	1.50	0.459	0.058	(0.083)	0.401
5	0.42	1.50	0.459	0.058	(0.083)	0.401
6	0.50	1.80	0.551	0.058	(0.099)	0.493
7	0.58	1.50	0.459	0.058	(0.083)	0.401
8	0.67	1.80	0.551	0.058	(0.099)	0.493
9	0.75	1.80	0.551	0.058	(0.099)	0.493
10	0.83	1.50	0.459	0.058	(0.083)	0.401
11	0.92	1.60	0.490	0.058	(0.088)	0.432
12	1.00	1.80	0.551	0.058	(0.099)	0.493
13	1.08	2.20	0.673	0.058	(0.121)	0.616
14	1.17	2.20	0.673	0.058	(0.121)	0.616
15	1.25	2.20	0.673	0.058	(0.121)	0.616
16	1.33	2.00	0.612	0.058	(0.110)	0.554
17	1.42	2.60	0.796	0.058	(0.143)	0.738
18	1.50	2.70	0.826	0.058	(0.149)	0.769
19	1.58	2.40	0.734	0.058	(0.132)	0.677
20	1.67	2.70	0.826	0.058	(0.149)	0.769
21	1.75	3.30	1.010	0.058	(0.182)	0.952
22	1.83	3.10	0.949	0.058	(0.171)	0.891
23	1.92	2.90	0.887	0.058	(0.160)	0.830
24	2.00	3.00	0.918	0.058	(0.165)	0.860
25	2.08	3.10	0.949	0.058	(0.171)	0.891
26	2.17	4.20	1.285	0.058	(0.231)	1.228
27	2.25	5.00	1.530	0.058	(0.275)	1.472
28	2.33	3.50	1.071	0.058	(0.193)	1.013
29	2.42	6.80	2.081	0.058	(0.375)	2.023
30	2.50	7.30	2.234	0.058	(0.402)	2.176
31	2.58	8.20	2.509	0.058	(0.452)	2.452
32	2.67	5.90	1.805	0.058	(0.325)	1.748
33	2.75	2.00	0.612	0.058	(0.110)	0.554
34	2.83	1.80	0.551	0.058	(0.099)	0.493
35	2.92	1.80	0.551	0.058	(0.099)	0.493
36	3.00	0.60	0.184	(0.058)	0.033	0.151
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	28.6

Flood volume = Effective rainfall 2.38(In)
times area 4.4(Ac.)/[(In)/(Ft.)] = 0.9(Ac.Ft)
Total soil loss = 0.17(In)
Total soil loss = 0.063(Ac.Ft)
Total rainfall = 2.55(In)
Flood volume = 38001.9 Cubic Feet
Total soil loss = 2725.9 Cubic Feet

Peak flow rate of this hydrograph = 10.304(CFS)

++

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0059	0.85	VQ
0+10	0.0156	1.42	V Q
0+15	0.0250	1.36	VQ
0+20	0.0357	1.56	V Q
0+25	0.0478	1.75	VQ
0+30	0.0616	2.01	V Q
0+35	0.0749	1.93	Q
0+40	0.0889	2.04	Q
0+45	0.1038	2.16	Q
0+50	0.1173	1.96	Q V
0+55	0.1303	1.88	Q V
1+ 0	0.1445	2.06	Q V
1+ 5	0.1616	2.48	Q V
1+10	0.1801	2.70	Q V
1+15	0.1990	2.73	Q V
1+20	0.2167	2.58	Q V
1+25	0.2369	2.94	Q V
1+30	0.2597	3.30	Q V
1+35	0.2815	3.17	Q V
1+40	0.3040	3.26	Q V
1+45	0.3304	3.85	Q V
1+50	0.3581	4.02	Q V
1+55	0.3844	3.82	Q V
2+ 0	0.4104	3.78	Q V
2+ 5	0.4372	3.89	Q V
2+10	0.4702	4.79	Q V
2+15	0.5113	5.97	Q V
2+20	0.5478	5.31	Q V
2+25	0.5971	7.16	Q V
2+30	0.6597	9.08	Q V
2+35	0.7306	10.30	Q V
2+40	0.7929	9.03	Q V
2+45	0.8270	4.95	Q V
2+50	0.8451	2.64	Q V
2+55	0.8603	2.21	Q V
3+ 0	0.8695	1.33	Q V
3+ 5	0.8721	0.38	Q V
3+10	0.8724	0.04	Q V

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 04/18/22 File: 21994PA6100.out

++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

21-994 WILDOMAR TRAIL
DRAINAGE AREA A - COMMERICAL
100-YEAR STORM EVENT

6-Year Storm Event

Drainage Area = 4.40(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.40(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 795.00(Ft.)
Length along longest watercourse measured to centroid = 450.00(Ft.)
Length along longest watercourse = 0.151 Mi.
Length along longest watercourse measured to centroid = 0.085 Mi.
Difference in elevation = 17.50(Ft.)
Slope along watercourse = 116.2264 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.028 Hr.
Lag time = 1.67 Min.
25% of lag time = 0.42 Min.
40% of lag time = 0.67 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.40	1.50	6.60

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.40	3.60	15.84

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.500(In)
Area Averaged 100-Year Rainfall = 3.600(In)

Point rain (area averaged) = 3.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.400	75.00	0.900

Total Area Entered = 4.40(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	299.065	56.584	2.509
2	0.167	598.130	37.180	1.649
3	0.250	897.195	6.236	0.277
			Sum = 100.000 Sum=	4.434

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.50	0.216	(0.058)	0.039	0.177
2	0.17	0.60	0.259	(0.058)	0.047	0.213
3	0.25	0.60	0.259	(0.058)	0.047	0.213
4	0.33	0.60	0.259	(0.058)	0.047	0.213
5	0.42	0.60	0.259	(0.058)	0.047	0.213
6	0.50	0.70	0.302	(0.058)	0.054	0.248
7	0.58	0.70	0.302	(0.058)	0.054	0.248
8	0.67	0.70	0.302	(0.058)	0.054	0.248
9	0.75	0.70	0.302	(0.058)	0.054	0.248
10	0.83	0.70	0.302	(0.058)	0.054	0.248
11	0.92	0.70	0.302	(0.058)	0.054	0.248
12	1.00	0.80	0.346	0.058	(0.062)	0.288
13	1.08	0.80	0.346	0.058	(0.062)	0.288
14	1.17	0.80	0.346	0.058	(0.062)	0.288
15	1.25	0.80	0.346	0.058	(0.062)	0.288
16	1.33	0.80	0.346	0.058	(0.062)	0.288
17	1.42	0.80	0.346	0.058	(0.062)	0.288
18	1.50	0.80	0.346	0.058	(0.062)	0.288
19	1.58	0.80	0.346	0.058	(0.062)	0.288
20	1.67	0.80	0.346	0.058	(0.062)	0.288
21	1.75	0.80	0.346	0.058	(0.062)	0.288
22	1.83	0.80	0.346	0.058	(0.062)	0.288
23	1.92	0.80	0.346	0.058	(0.062)	0.288
24	2.00	0.90	0.389	0.058	(0.070)	0.331
25	2.08	0.80	0.346	0.058	(0.062)	0.288
26	2.17	0.90	0.389	0.058	(0.070)	0.331
27	2.25	0.90	0.389	0.058	(0.070)	0.331
28	2.33	0.90	0.389	0.058	(0.070)	0.331
29	2.42	0.90	0.389	0.058	(0.070)	0.331
30	2.50	0.90	0.389	0.058	(0.070)	0.331
31	2.58	0.90	0.389	0.058	(0.070)	0.331
32	2.67	0.90	0.389	0.058	(0.070)	0.331
33	2.75	1.00	0.432	0.058	(0.078)	0.374
34	2.83	1.00	0.432	0.058	(0.078)	0.374
35	2.92	1.00	0.432	0.058	(0.078)	0.374
36	3.00	1.00	0.432	0.058	(0.078)	0.374
37	3.08	1.00	0.432	0.058	(0.078)	0.374
38	3.17	1.10	0.475	0.058	(0.086)	0.418
39	3.25	1.10	0.475	0.058	(0.086)	0.418
40	3.33	1.10	0.475	0.058	(0.086)	0.418
41	3.42	1.20	0.518	0.058	(0.093)	0.461
42	3.50	1.30	0.562	0.058	(0.101)	0.504
43	3.58	1.40	0.605	0.058	(0.109)	0.547
44	3.67	1.40	0.605	0.058	(0.109)	0.547
45	3.75	1.50	0.648	0.058	(0.117)	0.590
46	3.83	1.50	0.648	0.058	(0.117)	0.590
47	3.92	1.60	0.691	0.058	(0.124)	0.634
48	4.00	1.60	0.691	0.058	(0.124)	0.634
49	4.08	1.70	0.734	0.058	(0.132)	0.677
50	4.17	1.80	0.778	0.058	(0.140)	0.720
51	4.25	1.90	0.821	0.058	(0.148)	0.763
52	4.33	2.00	0.864	0.058	(0.156)	0.806
53	4.42	2.10	0.907	0.058	(0.163)	0.850
54	4.50	2.10	0.907	0.058	(0.163)	0.850
55	4.58	2.20	0.950	0.058	(0.171)	0.893

```
56   4.67     2.30      0.994          0.058    (  0.179)        0.936
57   4.75     2.40      1.037          0.058    (  0.187)        0.979
58   4.83     2.40      1.037          0.058    (  0.187)        0.979
59   4.92     2.50      1.080          0.058    (  0.194)        1.022
60   5.00     2.60      1.123          0.058    (  0.202)        1.066
61   5.08     3.10      1.339          0.058    (  0.241)        1.282
62   5.17     3.60      1.555          0.058    (  0.280)        1.498
63   5.25     3.90      1.685          0.058    (  0.303)        1.627
64   5.33     4.20      1.814          0.058    (  0.327)        1.757
65   5.42     4.70      2.030          0.058    (  0.365)        1.973
66   5.50     5.60      2.419          0.058    (  0.435)        2.362
67   5.58     1.90      0.821          0.058    (  0.148)        0.763
68   5.67     0.90      0.389          0.058    (  0.070)        0.331
69   5.75     0.60      0.259       (  0.058)       0.047        0.213
70   5.83     0.50      0.216       (  0.058)       0.039        0.177
71   5.92     0.30      0.130       (  0.058)       0.023        0.106
72   6.00     0.20      0.086       (  0.058)       0.016        0.071
            (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    39.2
      Flood volume = Effective rainfall      3.27(In)
       times area       4.4(Ac.)/[(In)/(Ft.)] =       1.2(Ac.Ft)
      Total soil loss =      0.33(In)
      Total soil loss =     0.121(Ac.Ft)
      Total rainfall =      3.60(In)
      Flood volume =       52230.2 Cubic Feet
      Total soil loss =        5268.1 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      9.669(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0031      0.44  VQ        |         |         |         |
  0+10       0.0087      0.83  V  Q      |         |         |         |
  0+15       0.0152      0.93  V  Q      |         |         |         |
  0+20       0.0217      0.94  V  Q      |         |         |         |
  0+25       0.0282      0.94  V  Q      |         |         |         |
  0+30       0.0353      1.03  |V  Q      |         |         |         |
  0+35       0.0428      1.09  |V  Q      |         |         |         |
  0+40       0.0504      1.10  |V  Q      |         |         |         |
  0+45       0.0579      1.10  |V  Q      |         |         |         |
  0+50       0.0655      1.10  | V Q      |         |         |         |
  0+55       0.0731      1.10  | V Q      |         |         |         |
  1+ 0       0.0814      1.20  | V Q      |         |         |         |
  1+ 5       0.0901      1.27  |  V Q     |         |         |         |
  1+10       0.0989      1.28  |  V Q     |         |         |         |
  1+15       0.1077      1.28  |  V Q     |         |         |         |
  1+20       0.1165      1.28  |  V Q     |         |         |         |
  1+25       0.1253      1.28  |   VQ     |         |         |         |
  1+30       0.1341      1.28  |   VQ     |         |         |         |
  1+35       0.1429      1.28  |   VQ     |         |         |         |
  1+40       0.1517      1.28  |    Q     |         |         |         |
  1+45       0.1605      1.28  |    Q     |         |         |         |
  1+50       0.1693      1.28  |    Q     |         |         |         |
  1+55       0.1781      1.28  |    Q     |         |         |         |
  2+ 0       0.1876      1.39  |    QV    |         |         |         |
  2+ 5       0.1969      1.35  |    QV    |         |         |         |
  2+10       0.2066      1.40  |    QV    |         |         |         |
  2+15       0.2166      1.46  |    Q V   |         |         |         |
  2+20       0.2267      1.47  |    Q V   |         |         |         |
  2+25       0.2368      1.47  |    Q V   |         |         |         |
  2+30       0.2470      1.47  |    Q  V  |         |         |         |
  2+35       0.2571      1.47  |    Q  V  |         |         |         |
  2+40       0.2672      1.47  |    Q  V  |         |         |         |
  2+45       0.2781      1.58  |     Q  V|         |         |         |
  2+50       0.2894      1.65  |     Q  V|         |         |         |
  2+55       0.3009      1.66  |     Q   V         |         |         |
  3+ 0       0.3123      1.66  |     Q   V         |         |         |
  3+ 5       0.3237      1.66  |     Q   V         |         |         |
  3+10       0.3359      1.77  |      Q  |V        |         |         |
  3+15       0.3486      1.84  |      Q  |V        |         |         |
  3+20       0.3614      1.85  |      Q  | V       |         |         |
  3+25       0.3749      1.96  |      Q  | V       |         |         |
```

3+30	0.3896	2.14	| Q | V | | |
3+35	0.4057	2.33	| Q| V | | |
3+40	0.4223	2.42	| Q| V | | |
3+45	0.4398	2.54	| Q V | | |
3+50	0.4578	2.61	| Q V | | |
3+55	0.4765	2.73	| Q V | | |
4+ 0	0.4958	2.80	| Q V | | |
4+ 5	0.5159	2.92	| Q V | | |
4+10	0.5373	3.10	| Q V | | |
4+15	0.5599	3.29	| Q V | | |
4+20	0.5839	3.48	| Q V| | |
4+25	0.6092	3.67	| Q V | | |
4+30	0.6351	3.76	| Q |V | |
4+35	0.6618	3.88	| Q | V | |
4+40	0.6898	4.06	| Q | V | |
4+45	0.7190	4.25	| Q | V | |
4+50	0.7489	4.33	| Q | V | |
4+55	0.7795	4.45	| Q | V | |
5+ 0	0.8114	4.63	| Q | V | |
5+ 5	0.8476	5.26	| |Q V | |
5+10	0.8901	6.17	| | Q V| |
5+15	0.9377	6.91	| | Q |V |
5+20	0.9894	7.51	| | Q V |
5+25	1.0466	8.30	| | | QV |
5+30	1.1132	9.67	| | | VQ |
5+35	1.1570	6.36	| | Q | V |
5+40	1.1759	2.74	| Q | | V|
5+45	1.1848	1.29	| Q | | | V|
5+50	1.1909	0.89	| Q | | | V|
5+55	1.1951	0.62	| Q | | | V|
6+ 0	1.1979	0.40	|Q | | | V|
6+ 5	1.1989	0.15	Q | | | V|
6+10	1.1990	0.02	Q | | | V|

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 04/18/22 File: 21994PA24100.out

++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

21-994 WILDOMAR TRAIL
DRAINAGE AREA A - COMMERICAL
100-YEAR STORM EVENT

24-Year Storm Event

Drainage Area = 4.40(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.40(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 795.00(Ft.)
Length along longest watercourse measured to centroid = 450.00(Ft.)
Length along longest watercourse = 0.151 Mi.
Length along longest watercourse measured to centroid = 0.085 Mi.
Difference in elevation = 17.50(Ft.)
Slope along watercourse = 116.2264 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.028 Hr.
Lag time = 1.67 Min.
25% of lag time = 0.42 Min.
40% of lag time = 0.67 Min.
Unit time = 5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.40	2.70	11.88

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.40	7.50	33.00

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 2.700(In)
Area Averaged 100-Year Rainfall = 7.500(In)

Point rain (area averaged) = 7.500(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 7.500(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.400	75.00	0.900

Total Area Entered = 4.40(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.900	0.058	1.000	0.058
					Sum (F) =	0.058

Area averaged mean soil loss (F) (In/Hr) = 0.058
Minimum soil loss rate ((In/Hr)) = 0.029

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.180

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	299.065	56.584	2.509
2	0.167	598.130	37.180	1.649
3	0.250	897.195	6.236	0.277
			Sum = 100.000 Sum=	4.434

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.060	(0.102)	0.011	0.049
2	0.17	0.07	0.060	(0.102)	0.011	0.049
3	0.25	0.07	0.060	(0.101)	0.011	0.049
4	0.33	0.10	0.090	(0.101)	0.016	0.074
5	0.42	0.10	0.090	(0.100)	0.016	0.074
6	0.50	0.10	0.090	(0.100)	0.016	0.074
7	0.58	0.10	0.090	(0.100)	0.016	0.074
8	0.67	0.10	0.090	(0.099)	0.016	0.074
9	0.75	0.10	0.090	(0.099)	0.016	0.074
10	0.83	0.13	0.120	(0.099)	0.022	0.098
11	0.92	0.13	0.120	(0.098)	0.022	0.098
12	1.00	0.13	0.120	(0.098)	0.022	0.098
13	1.08	0.10	0.090	(0.097)	0.016	0.074
14	1.17	0.10	0.090	(0.097)	0.016	0.074
15	1.25	0.10	0.090	(0.097)	0.016	0.074
16	1.33	0.10	0.090	(0.096)	0.016	0.074
17	1.42	0.10	0.090	(0.096)	0.016	0.074
18	1.50	0.10	0.090	(0.095)	0.016	0.074
19	1.58	0.10	0.090	(0.095)	0.016	0.074
20	1.67	0.10	0.090	(0.095)	0.016	0.074
21	1.75	0.10	0.090	(0.094)	0.016	0.074
22	1.83	0.13	0.120	(0.094)	0.022	0.098
23	1.92	0.13	0.120	(0.094)	0.022	0.098
24	2.00	0.13	0.120	(0.093)	0.022	0.098
25	2.08	0.13	0.120	(0.093)	0.022	0.098
26	2.17	0.13	0.120	(0.092)	0.022	0.098
27	2.25	0.13	0.120	(0.092)	0.022	0.098
28	2.33	0.13	0.120	(0.092)	0.022	0.098
29	2.42	0.13	0.120	(0.091)	0.022	0.098
30	2.50	0.13	0.120	(0.091)	0.022	0.098
31	2.58	0.17	0.150	(0.091)	0.027	0.123
32	2.67	0.17	0.150	(0.090)	0.027	0.123
33	2.75	0.17	0.150	(0.090)	0.027	0.123
34	2.83	0.17	0.150	(0.089)	0.027	0.123
35	2.92	0.17	0.150	(0.089)	0.027	0.123
36	3.00	0.17	0.150	(0.089)	0.027	0.123
37	3.08	0.17	0.150	(0.088)	0.027	0.123
38	3.17	0.17	0.150	(0.088)	0.027	0.123
39	3.25	0.17	0.150	(0.088)	0.027	0.123
40	3.33	0.17	0.150	(0.087)	0.027	0.123
41	3.42	0.17	0.150	(0.087)	0.027	0.123
42	3.50	0.17	0.150	(0.087)	0.027	0.123
43	3.58	0.17	0.150	(0.086)	0.027	0.123
44	3.67	0.17	0.150	(0.086)	0.027	0.123
45	3.75	0.17	0.150	(0.085)	0.027	0.123
46	3.83	0.20	0.180	(0.085)	0.032	0.148
47	3.92	0.20	0.180	(0.085)	0.032	0.148
48	4.00	0.20	0.180	(0.084)	0.032	0.148
49	4.08	0.20	0.180	(0.084)	0.032	0.148
50	4.17	0.20	0.180	(0.084)	0.032	0.148
51	4.25	0.20	0.180	(0.083)	0.032	0.148
52	4.33	0.23	0.210	(0.083)	0.038	0.172
53	4.42	0.23	0.210	(0.083)	0.038	0.172
54	4.50	0.23	0.210	(0.082)	0.038	0.172
55	4.58	0.23	0.210	(0.082)	0.038	0.172

56	4.67	0.23	0.210	(0.082)	0.038	0.172
57	4.75	0.23	0.210	(0.081)	0.038	0.172
58	4.83	0.27	0.240	(0.081)	0.043	0.197
59	4.92	0.27	0.240	(0.080)	0.043	0.197
60	5.00	0.27	0.240	(0.080)	0.043	0.197
61	5.08	0.20	0.180	(0.080)	0.032	0.148
62	5.17	0.20	0.180	(0.079)	0.032	0.148
63	5.25	0.20	0.180	(0.079)	0.032	0.148
64	5.33	0.23	0.210	(0.079)	0.038	0.172
65	5.42	0.23	0.210	(0.078)	0.038	0.172
66	5.50	0.23	0.210	(0.078)	0.038	0.172
67	5.58	0.27	0.240	(0.078)	0.043	0.197
68	5.67	0.27	0.240	(0.077)	0.043	0.197
69	5.75	0.27	0.240	(0.077)	0.043	0.197
70	5.83	0.27	0.240	(0.077)	0.043	0.197
71	5.92	0.27	0.240	(0.076)	0.043	0.197
72	6.00	0.27	0.240	(0.076)	0.043	0.197
73	6.08	0.30	0.270	(0.076)	0.049	0.221
74	6.17	0.30	0.270	(0.075)	0.049	0.221
75	6.25	0.30	0.270	(0.075)	0.049	0.221
76	6.33	0.30	0.270	(0.075)	0.049	0.221
77	6.42	0.30	0.270	(0.074)	0.049	0.221
78	6.50	0.30	0.270	(0.074)	0.049	0.221
79	6.58	0.33	0.300	(0.074)	0.054	0.246
80	6.67	0.33	0.300	(0.073)	0.054	0.246
81	6.75	0.33	0.300	(0.073)	0.054	0.246
82	6.83	0.33	0.300	(0.073)	0.054	0.246
83	6.92	0.33	0.300	(0.072)	0.054	0.246
84	7.00	0.33	0.300	(0.072)	0.054	0.246
85	7.08	0.33	0.300	(0.072)	0.054	0.246
86	7.17	0.33	0.300	(0.071)	0.054	0.246
87	7.25	0.33	0.300	(0.071)	0.054	0.246
88	7.33	0.37	0.330	(0.071)	0.059	0.271
89	7.42	0.37	0.330	(0.070)	0.059	0.271
90	7.50	0.37	0.330	(0.070)	0.059	0.271
91	7.58	0.40	0.360	(0.070)	0.065	0.295
92	7.67	0.40	0.360	(0.069)	0.065	0.295
93	7.75	0.40	0.360	(0.069)	0.065	0.295
94	7.83	0.43	0.390	0.069	(0.070)	0.321
95	7.92	0.43	0.390	0.068	(0.070)	0.322
96	8.00	0.43	0.390	0.068	(0.070)	0.322
97	8.08	0.50	0.450	0.068	(0.081)	0.382
98	8.17	0.50	0.450	0.067	(0.081)	0.382
99	8.25	0.50	0.450	0.067	(0.081)	0.383
100	8.33	0.50	0.450	0.067	(0.081)	0.383
101	8.42	0.50	0.450	0.067	(0.081)	0.383
102	8.50	0.50	0.450	0.066	(0.081)	0.384
103	8.58	0.53	0.480	0.066	(0.086)	0.414
104	8.67	0.53	0.480	0.066	(0.086)	0.414
105	8.75	0.53	0.480	0.065	(0.086)	0.415
106	8.83	0.57	0.510	0.065	(0.092)	0.445
107	8.92	0.57	0.510	0.065	(0.092)	0.445
108	9.00	0.57	0.510	0.064	(0.092)	0.446
109	9.08	0.63	0.570	0.064	(0.103)	0.506
110	9.17	0.63	0.570	0.064	(0.103)	0.506
111	9.25	0.63	0.570	0.063	(0.103)	0.507
112	9.33	0.67	0.600	0.063	(0.108)	0.537
113	9.42	0.67	0.600	0.063	(0.108)	0.537
114	9.50	0.67	0.600	0.063	(0.108)	0.537
115	9.58	0.70	0.630	0.062	(0.113)	0.568
116	9.67	0.70	0.630	0.062	(0.113)	0.568
117	9.75	0.70	0.630	0.062	(0.113)	0.568
118	9.83	0.73	0.660	0.061	(0.119)	0.599
119	9.92	0.73	0.660	0.061	(0.119)	0.599
120	10.00	0.73	0.660	0.061	(0.119)	0.599
121	10.08	0.50	0.450	0.060	(0.081)	0.389
122	10.17	0.50	0.450	0.060	(0.081)	0.390
123	10.25	0.50	0.450	0.060	(0.081)	0.390
124	10.33	0.50	0.450	0.060	(0.081)	0.390
125	10.42	0.50	0.450	0.059	(0.081)	0.391
126	10.50	0.50	0.450	0.059	(0.081)	0.391
127	10.58	0.67	0.600	0.059	(0.108)	0.541
128	10.67	0.67	0.600	0.058	(0.108)	0.542
129	10.75	0.67	0.600	0.058	(0.108)	0.542
130	10.83	0.67	0.600	0.058	(0.108)	0.542
131	10.92	0.67	0.600	0.058	(0.108)	0.542
132	11.00	0.67	0.600	0.057	(0.108)	0.543
133	11.08	0.63	0.570	0.057	(0.103)	0.513
134	11.17	0.63	0.570	0.057	(0.103)	0.513

135	11.25	0.63	0.570	0.056	(	0.103)	0.514
136	11.33	0.63	0.570	0.056	(	0.103)	0.514
137	11.42	0.63	0.570	0.056	(	0.103)	0.514
138	11.50	0.63	0.570	0.056	(	0.103)	0.514
139	11.58	0.57	0.510	0.055	(	0.092)	0.455
140	11.67	0.57	0.510	0.055	(	0.092)	0.455
141	11.75	0.57	0.510	0.055	(	0.092)	0.455
142	11.83	0.60	0.540	0.055	(	0.097)	0.485
143	11.92	0.60	0.540	0.054	(	0.097)	0.486
144	12.00	0.60	0.540	0.054	(	0.097)	0.486
145	12.08	0.83	0.750	0.054	(	0.135)	0.696
146	12.17	0.83	0.750	0.053	(	0.135)	0.697
147	12.25	0.83	0.750	0.053	(	0.135)	0.697
148	12.33	0.87	0.780	0.053	(	0.140)	0.727
149	12.42	0.87	0.780	0.053	(	0.140)	0.727
150	12.50	0.87	0.780	0.052	(	0.140)	0.728
151	12.58	0.93	0.840	0.052	(	0.151)	0.788
152	12.67	0.93	0.840	0.052	(	0.151)	0.788
153	12.75	0.93	0.840	0.052	(	0.151)	0.788
154	12.83	0.97	0.870	0.051	(	0.157)	0.819
155	12.92	0.97	0.870	0.051	(	0.157)	0.819
156	13.00	0.97	0.870	0.051	(	0.157)	0.819
157	13.08	1.13	1.020	0.051	(	0.184)	0.969
158	13.17	1.13	1.020	0.050	(	0.184)	0.970
159	13.25	1.13	1.020	0.050	(	0.184)	0.970
160	13.33	1.13	1.020	0.050	(	0.184)	0.970
161	13.42	1.13	1.020	0.050	(	0.184)	0.970
162	13.50	1.13	1.020	0.049	(	0.184)	0.971
163	13.58	0.77	0.690	0.049	(	0.124)	0.641
164	13.67	0.77	0.690	0.049	(	0.124)	0.641
165	13.75	0.77	0.690	0.049	(	0.124)	0.641
166	13.83	0.77	0.690	0.048	(	0.124)	0.642
167	13.92	0.77	0.690	0.048	(	0.124)	0.642
168	14.00	0.77	0.690	0.048	(	0.124)	0.642
169	14.08	0.90	0.810	0.048	(	0.146)	0.762
170	14.17	0.90	0.810	0.047	(	0.146)	0.763
171	14.25	0.90	0.810	0.047	(	0.146)	0.763
172	14.33	0.87	0.780	0.047	(	0.140)	0.733
173	14.42	0.87	0.780	0.047	(	0.140)	0.733
174	14.50	0.87	0.780	0.046	(	0.140)	0.734
175	14.58	0.87	0.780	0.046	(	0.140)	0.734
176	14.67	0.87	0.780	0.046	(	0.140)	0.734
177	14.75	0.87	0.780	0.046	(	0.140)	0.734
178	14.83	0.83	0.750	0.045	(	0.135)	0.705
179	14.92	0.83	0.750	0.045	(	0.135)	0.705
180	15.00	0.83	0.750	0.045	(	0.135)	0.705
181	15.08	0.80	0.720	0.045	(	0.130)	0.675
182	15.17	0.80	0.720	0.045	(	0.130)	0.675
183	15.25	0.80	0.720	0.044	(	0.130)	0.676
184	15.33	0.77	0.690	0.044	(	0.124)	0.646
185	15.42	0.77	0.690	0.044	(	0.124)	0.646
186	15.50	0.77	0.690	0.044	(	0.124)	0.646
187	15.58	0.63	0.570	0.043	(	0.103)	0.527
188	15.67	0.63	0.570	0.043	(	0.103)	0.527
189	15.75	0.63	0.570	0.043	(	0.103)	0.527
190	15.83	0.63	0.570	0.043	(	0.103)	0.527
191	15.92	0.63	0.570	0.042	(	0.103)	0.528
192	16.00	0.63	0.570	0.042	(	0.103)	0.528
193	16.08	0.13	0.120	(0.042)		0.022	0.098
194	16.17	0.13	0.120	(0.042)		0.022	0.098
195	16.25	0.13	0.120	(0.042)		0.022	0.098
196	16.33	0.13	0.120	(0.041)		0.022	0.098
197	16.42	0.13	0.120	(0.041)		0.022	0.098
198	16.50	0.13	0.120	(0.041)		0.022	0.098
199	16.58	0.10	0.090	(0.041)		0.016	0.074
200	16.67	0.10	0.090	(0.041)		0.016	0.074
201	16.75	0.10	0.090	(0.040)		0.016	0.074
202	16.83	0.10	0.090	(0.040)		0.016	0.074
203	16.92	0.10	0.090	(0.040)		0.016	0.074
204	17.00	0.10	0.090	(0.040)		0.016	0.074
205	17.08	0.17	0.150	(0.040)		0.027	0.123
206	17.17	0.17	0.150	(0.039)		0.027	0.123
207	17.25	0.17	0.150	(0.039)		0.027	0.123
208	17.33	0.17	0.150	(0.039)		0.027	0.123
209	17.42	0.17	0.150	(0.039)		0.027	0.123
210	17.50	0.17	0.150	(0.039)		0.027	0.123
211	17.58	0.17	0.150	(0.038)		0.027	0.123
212	17.67	0.17	0.150	(0.038)		0.027	0.123
213	17.75	0.17	0.150	(0.038)		0.027	0.123

214	17.83	0.13	0.120	(0.038)	0.022	0.098
215	17.92	0.13	0.120	(0.038)	0.022	0.098
216	18.00	0.13	0.120	(0.037)	0.022	0.098
217	18.08	0.13	0.120	(0.037)	0.022	0.098
218	18.17	0.13	0.120	(0.037)	0.022	0.098
219	18.25	0.13	0.120	(0.037)	0.022	0.098
220	18.33	0.13	0.120	(0.037)	0.022	0.098
221	18.42	0.13	0.120	(0.037)	0.022	0.098
222	18.50	0.13	0.120	(0.036)	0.022	0.098
223	18.58	0.10	0.090	(0.036)	0.016	0.074
224	18.67	0.10	0.090	(0.036)	0.016	0.074
225	18.75	0.10	0.090	(0.036)	0.016	0.074
226	18.83	0.07	0.060	(0.036)	0.011	0.049
227	18.92	0.07	0.060	(0.035)	0.011	0.049
228	19.00	0.07	0.060	(0.035)	0.011	0.049
229	19.08	0.10	0.090	(0.035)	0.016	0.074
230	19.17	0.10	0.090	(0.035)	0.016	0.074
231	19.25	0.10	0.090	(0.035)	0.016	0.074
232	19.33	0.13	0.120	(0.035)	0.022	0.098
233	19.42	0.13	0.120	(0.035)	0.022	0.098
234	19.50	0.13	0.120	(0.034)	0.022	0.098
235	19.58	0.10	0.090	(0.034)	0.016	0.074
236	19.67	0.10	0.090	(0.034)	0.016	0.074
237	19.75	0.10	0.090	(0.034)	0.016	0.074
238	19.83	0.07	0.060	(0.034)	0.011	0.049
239	19.92	0.07	0.060	(0.034)	0.011	0.049
240	20.00	0.07	0.060	(0.033)	0.011	0.049
241	20.08	0.10	0.090	(0.033)	0.016	0.074
242	20.17	0.10	0.090	(0.033)	0.016	0.074
243	20.25	0.10	0.090	(0.033)	0.016	0.074
244	20.33	0.10	0.090	(0.033)	0.016	0.074
245	20.42	0.10	0.090	(0.033)	0.016	0.074
246	20.50	0.10	0.090	(0.033)	0.016	0.074
247	20.58	0.10	0.090	(0.032)	0.016	0.074
248	20.67	0.10	0.090	(0.032)	0.016	0.074
249	20.75	0.10	0.090	(0.032)	0.016	0.074
250	20.83	0.07	0.060	(0.032)	0.011	0.049
251	20.92	0.07	0.060	(0.032)	0.011	0.049
252	21.00	0.07	0.060	(0.032)	0.011	0.049
253	21.08	0.10	0.090	(0.032)	0.016	0.074
254	21.17	0.10	0.090	(0.032)	0.016	0.074
255	21.25	0.10	0.090	(0.031)	0.016	0.074
256	21.33	0.07	0.060	(0.031)	0.011	0.049
257	21.42	0.07	0.060	(0.031)	0.011	0.049
258	21.50	0.07	0.060	(0.031)	0.011	0.049
259	21.58	0.10	0.090	(0.031)	0.016	0.074
260	21.67	0.10	0.090	(0.031)	0.016	0.074
261	21.75	0.10	0.090	(0.031)	0.016	0.074
262	21.83	0.07	0.060	(0.031)	0.011	0.049
263	21.92	0.07	0.060	(0.030)	0.011	0.049
264	22.00	0.07	0.060	(0.030)	0.011	0.049
265	22.08	0.10	0.090	(0.030)	0.016	0.074
266	22.17	0.10	0.090	(0.030)	0.016	0.074
267	22.25	0.10	0.090	(0.030)	0.016	0.074
268	22.33	0.07	0.060	(0.030)	0.011	0.049
269	22.42	0.07	0.060	(0.030)	0.011	0.049
270	22.50	0.07	0.060	(0.030)	0.011	0.049
271	22.58	0.07	0.060	(0.030)	0.011	0.049
272	22.67	0.07	0.060	(0.030)	0.011	0.049
273	22.75	0.07	0.060	(0.030)	0.011	0.049
274	22.83	0.07	0.060	(0.029)	0.011	0.049
275	22.92	0.07	0.060	(0.029)	0.011	0.049
276	23.00	0.07	0.060	(0.029)	0.011	0.049
277	23.08	0.07	0.060	(0.029)	0.011	0.049
278	23.17	0.07	0.060	(0.029)	0.011	0.049
279	23.25	0.07	0.060	(0.029)	0.011	0.049
280	23.33	0.07	0.060	(0.029)	0.011	0.049
281	23.42	0.07	0.060	(0.029)	0.011	0.049
282	23.50	0.07	0.060	(0.029)	0.011	0.049
283	23.58	0.07	0.060	(0.029)	0.011	0.049
284	23.67	0.07	0.060	(0.029)	0.011	0.049
285	23.75	0.07	0.060	(0.029)	0.011	0.049
286	23.83	0.07	0.060	(0.029)	0.011	0.049
287	23.92	0.07	0.060	(0.029)	0.011	0.049
288	24.00	0.07	0.060	(0.029)	0.011	0.049

(Loss Rate Not Used)

Sum = 100.0 Sum = 79.9

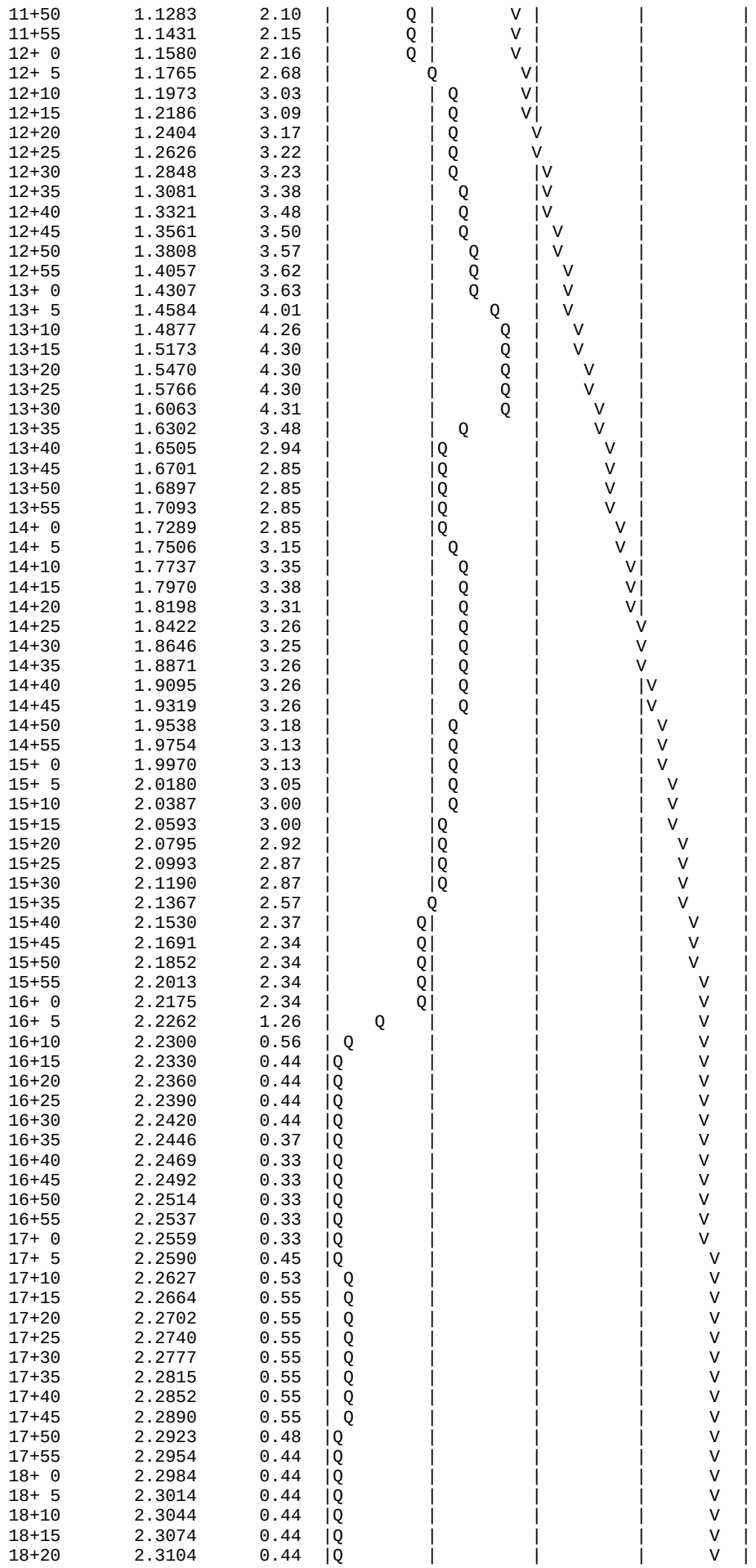
Flood volume = Effective rainfall 6.66(In)

times area 4.4(Ac.)/[(In)/(Ft.)] = 2.4(Ac.Ft)

```
      Total soil loss =      0.84(In)
      Total soil loss =     0.308(Ac.Ft)
      Total rainfall =      7.50(In)
      Flood volume =      106371.0 Cubic Feet
      Total soil loss =       13417.9 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      4.306(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          24 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0009      0.12  Q         |         |         |         |
  0+10       0.0023      0.20  Q         |         |         |         |
  0+15       0.0038      0.22  Q         |         |         |         |
  0+20       0.0057      0.28  VQ        |         |         |         |
  0+25       0.0079      0.32  VQ        |         |         |         |
  0+30       0.0102      0.33  VQ        |         |         |         |
  0+35       0.0124      0.33  VQ        |         |         |         |
  0+40       0.0147      0.33  VQ        |         |         |         |
  0+45       0.0169      0.33  VQ        |         |         |         |
  0+50       0.0196      0.39  VQ        |         |         |         |
  0+55       0.0226      0.43  VQ        |         |         |         |
  1+ 0       0.0256      0.44  VQ        |         |         |         |
  1+ 5       0.0281      0.37  VQ        |         |         |         |
  1+10       0.0305      0.33  VQ        |         |         |         |
  1+15       0.0327      0.33  VQ        |         |         |         |
  1+20       0.0350      0.33  VQ        |         |         |         |
  1+25       0.0372      0.33  VQ        |         |         |         |
  1+30       0.0395      0.33  VQ        |         |         |         |
  1+35       0.0417      0.33  VQ        |         |         |         |
  1+40       0.0440      0.33  VQ        |         |         |         |
  1+45       0.0462      0.33  VQ        |         |         |         |
  1+50       0.0489      0.39  VQ        |         |         |         |
  1+55       0.0519      0.43  VQ        |         |         |         |
  2+ 0       0.0549      0.44  VQ        |         |         |         |
  2+ 5       0.0579      0.44  VQ        |         |         |         |
  2+10       0.0609      0.44  VQ        |         |         |         |
  2+15       0.0639      0.44  |Q        |         |         |         |
  2+20       0.0669      0.44  |Q        |         |         |         |
  2+25       0.0699      0.44  |Q        |         |         |         |
  2+30       0.0729      0.44  |Q        |         |         |         |
  2+35       0.0764      0.50  |Q        |         |         |         |
  2+40       0.0801      0.54  |VQ       |         |         |         |
  2+45       0.0838      0.55  |VQ       |         |         |         |
  2+50       0.0876      0.55  |VQ       |         |         |         |
  2+55       0.0913      0.55  |VQ       |         |         |         |
  3+ 0       0.0951      0.55  |VQ       |         |         |         |
  3+ 5       0.0989      0.55  |VQ       |         |         |         |
  3+10       0.1026      0.55  |VQ       |         |         |         |
  3+15       0.1064      0.55  |VQ       |         |         |         |
  3+20       0.1101      0.55  |VQ       |         |         |         |
  3+25       0.1139      0.55  |VQ       |         |         |         |
  3+30       0.1176      0.55  |VQ       |         |         |         |
  3+35       0.1214      0.55  |VQ       |         |         |         |
  3+40       0.1252      0.55  | Q       |         |         |         |
  3+45       0.1289      0.55  | Q       |         |         |         |
  3+50       0.1331      0.61  | Q       |         |         |         |
  3+55       0.1376      0.65  | Q       |         |         |         |
  4+ 0       0.1421      0.65  | Q       |         |         |         |
  4+ 5       0.1466      0.65  | Q       |         |         |         |
  4+10       0.1511      0.65  | Q       |         |         |         |
  4+15       0.1556      0.65  | Q       |         |         |         |
  4+20       0.1605      0.72  | Q       |         |         |         |
  4+25       0.1658      0.76  | VQ      |         |         |         |
  4+30       0.1710      0.76  | VQ      |         |         |         |
  4+35       0.1763      0.76  | VQ      |         |         |         |
  4+40       0.1815      0.76  | VQ      |         |         |         |
  4+45       0.1868      0.76  |  Q      |         |         |         |
  4+50       0.1925      0.83  |  Q      |         |         |         |
  4+55       0.1985      0.87  |  Q      |         |         |         |
  5+ 0       0.2045      0.87  |  Q      |         |         |         |
  5+ 5       0.2096      0.75  | QV      |         |         |         |
  5+10       0.2142      0.67  | QV      |         |         |         |
```

```
 5+15       0.2187      0.65  | QV      |         |         |         |
 5+20       0.2237      0.72  | QV      |         |         |         |
 5+25       0.2289      0.76  |  Q      |         |         |         |
 5+30       0.2342      0.76  |  Q      |         |         |         |
 5+35       0.2398      0.83  |  Q      |         |         |         |
 5+40       0.2458      0.87  |  QV     |         |         |         |
 5+45       0.2518      0.87  |  QV     |         |         |         |
 5+50       0.2578      0.87  |  QV     |         |         |         |
 5+55       0.2639      0.87  |  QV     |         |         |         |
 6+ 0       0.2699      0.87  |  QV     |         |         |         |
 6+ 5       0.2763      0.93  |  QV     |         |         |         |
 6+10       0.2830      0.98  |  QV     |         |         |         |
 6+15       0.2898      0.98  |  QV     |         |         |         |
 6+20       0.2966      0.98  |  QV     |         |         |         |
 6+25       0.3033      0.98  |  QV     |         |         |         |
 6+30       0.3101      0.98  |  Q V    |         |         |         |
 6+35       0.3173      1.04  |   QV    |         |         |         |
 6+40       0.3247      1.08  |   QV    |         |         |         |
 6+45       0.3323      1.09  |   QV    |         |         |         |
 6+50       0.3398      1.09  |   QV    |         |         |         |
 6+55       0.3473      1.09  |   QV    |         |         |         |
 7+ 0       0.3548      1.09  |   QV    |         |         |         |
 7+ 5       0.3623      1.09  |   QV    |         |         |         |
 7+10       0.3698      1.09  |   Q V   |         |         |         |
 7+15       0.3774      1.09  |   Q V   |         |         |         |
 7+20       0.3853      1.15  |   Q V   |         |         |         |
 7+25       0.3935      1.19  |   Q V   |         |         |         |
 7+30       0.4018      1.20  |   Q V   |         |         |         |
 7+35       0.4105      1.26  |    QV   |         |         |         |
 7+40       0.4195      1.30  |    QV   |         |         |         |
 7+45       0.4285      1.31  |    Q V  |         |         |         |
 7+50       0.4379      1.38  |    Q V  |         |         |         |
 7+55       0.4477      1.42  |    Q V  |         |         |         |
 8+ 0       0.4575      1.43  |    Q V  |         |         |         |
 8+ 5       0.4684      1.58  |     QV  |         |         |         |
 8+10       0.4800      1.68  |     QV  |         |         |         |
 8+15       0.4917      1.70  |     Q V |         |         |         |
 8+20       0.5034      1.70  |     Q V |         |         |         |
 8+25       0.5151      1.70  |     Q V |         |         |         |
 8+30       0.5268      1.70  |     Q V |         |         |         |
 8+35       0.5391      1.78  |      QV |         |         |         |
 8+40       0.5517      1.83  |      Q V|         |         |         |
 8+45       0.5643      1.84  |      Q V|         |         |         |
 8+50       0.5775      1.92  |      Q V|         |         |         |
 8+55       0.5911      1.97  |      Q V|         |         |         |
 9+ 0       0.6047      1.98  |      Q V|         |         |         |
 9+ 5       0.6193      2.13  |       Q V         |         |         |
 9+10       0.6347      2.23  |       Q V         |         |         |
 9+15       0.6502      2.25  |       Q V         |         |         |
 9+20       0.6662      2.32  |        QV         |         |         |
 9+25       0.6825      2.37  |        Q|V         |         |         |
 9+30       0.6989      2.38  |        Q|V         |         |         |
 9+35       0.7159      2.46  |        Q|V         |         |         |
 9+40       0.7332      2.51  |         Q V       |         |         |
 9+45       0.7505      2.52  |         Q V       |         |         |
 9+50       0.7684      2.60  |         Q V       |         |         |
 9+55       0.7867      2.65  |         Q V       |         |         |
10+ 0       0.8050      2.66  |         Q  V      |         |         |
10+ 5       0.8196      2.13  |       Q |  V      |         |         |
10+10       0.8319      1.79  |      Q  |  V      |         |         |
10+15       0.8439      1.73  |     Q   |  V      |         |         |
10+20       0.8558      1.73  |     Q   |   V     |         |         |
10+25       0.8677      1.73  |     Q   |   V     |         |         |
10+30       0.8797      1.73  |     Q   |   V     |         |         |
10+35       0.8942      2.11  |       Q |   V     |         |         |
10+40       0.9105      2.36  |        Q|   V     |         |         |
10+45       0.9270      2.40  |        Q|    V    |         |         |
10+50       0.9436      2.40  |        Q|    V    |         |         |
10+55       0.9601      2.41  |        Q|    V    |         |         |
11+ 0       0.9767      2.41  |        Q|    V    |         |         |
11+ 5       0.9928      2.33  |        Q|     V   |         |         |
11+10       1.0085      2.28  |        Q|     V   |         |         |
11+15       1.0242      2.28  |        Q|     V   |         |         |
11+20       1.0399      2.28  |        Q|      V  |         |         |
11+25       1.0556      2.28  |        Q|      V  |         |         |
11+30       1.0713      2.28  |        Q|      V  |         |         |
11+35       1.0860      2.13  |       Q |      V  |         |         |
11+40       1.1000      2.03  |       Q |       V |         |         |
11+45       1.1139      2.02  |       Q |       V |         |         |
```



11+50	1.1283	2.10	Q	V			
11+55	1.1431	2.15	Q	V			
12+ 0	1.1580	2.16	Q	V			
12+ 5	1.1765	2.68	Q	V			
12+10	1.1973	3.03	Q	V			
12+15	1.2186	3.09	Q	V			
12+20	1.2404	3.17	Q	V			
12+25	1.2626	3.22	Q	V			
12+30	1.2848	3.23	Q	V			
12+35	1.3081	3.38	Q	V			
12+40	1.3321	3.48	Q	V			
12+45	1.3561	3.50	Q	V			
12+50	1.3808	3.57	Q	V			
12+55	1.4057	3.62	Q	V			
13+ 0	1.4307	3.63	Q	V			
13+ 5	1.4584	4.01	Q	V			
13+10	1.4877	4.26	Q	V			
13+15	1.5173	4.30	Q	V			
13+20	1.5470	4.30	Q	V			
13+25	1.5766	4.30	Q	V			
13+30	1.6063	4.31	Q	V			
13+35	1.6302	3.48	Q	V			
13+40	1.6505	2.94	Q	V			
13+45	1.6701	2.85	Q	V			
13+50	1.6897	2.85	Q	V			
13+55	1.7093	2.85	Q	V			
14+ 0	1.7289	2.85	Q	V			
14+ 5	1.7506	3.15	Q	V			
14+10	1.7737	3.35	Q	V			
14+15	1.7970	3.38	Q	V			
14+20	1.8198	3.31	Q	V			
14+25	1.8422	3.26	Q	V			
14+30	1.8646	3.25	Q	V			
14+35	1.8871	3.26	Q	V			
14+40	1.9095	3.26	Q	V			
14+45	1.9319	3.26	Q	V			
14+50	1.9538	3.18	Q	V			
14+55	1.9754	3.13	Q	V			
15+ 0	1.9970	3.13	Q	V			
15+ 5	2.0180	3.05	Q	V			
15+10	2.0387	3.00	Q	V			
15+15	2.0593	3.00	Q	V			
15+20	2.0795	2.92	Q	V			
15+25	2.0993	2.87	Q	V			
15+30	2.1190	2.87	Q	V			
15+35	2.1367	2.57	Q	V			
15+40	2.1530	2.37	Q	V			
15+45	2.1691	2.34	Q	V			
15+50	2.1852	2.34	Q	V			
15+55	2.2013	2.34	Q	V			
16+ 0	2.2175	2.34	Q	V			
16+ 5	2.2262	1.26	Q	V			
16+10	2.2300	0.56	Q	V			
16+15	2.2330	0.44	Q	V			
16+20	2.2360	0.44	Q	V			
16+25	2.2390	0.44	Q	V			
16+30	2.2420	0.44	Q	V			
16+35	2.2446	0.37	Q	V			
16+40	2.2469	0.33	Q	V			
16+45	2.2492	0.33	Q	V			
16+50	2.2514	0.33	Q	V			
16+55	2.2537	0.33	Q	V			
17+ 0	2.2559	0.33	Q	V			
17+ 5	2.2590	0.45	Q	V			
17+10	2.2627	0.53	Q	V			
17+15	2.2664	0.55	Q	V			
17+20	2.2702	0.55	Q	V			
17+25	2.2740	0.55	Q	V			
17+30	2.2777	0.55	Q	V			
17+35	2.2815	0.55	Q	V			
17+40	2.2852	0.55	Q	V			
17+45	2.2890	0.55	Q	V			
17+50	2.2923	0.48	Q	V			
17+55	2.2954	0.44	Q	V			
18+ 0	2.2984	0.44	Q	V			
18+ 5	2.3014	0.44	Q	V			
18+10	2.3044	0.44	Q	V			
18+15	2.3074	0.44	Q	V			
18+20	2.3104	0.44	Q	V			

```
  18+25       2.3134      0.44  |Q        |         |         |      V  |
  18+30       2.3164      0.44  |Q        |         |         |      V  |
  18+35       2.3190      0.37  |Q        |         |         |      V  |
  18+40       2.3213      0.33  |Q        |         |         |       V |
  18+45       2.3236      0.33  |Q        |         |         |       V |
  18+50       2.3254      0.27  |Q        |         |         |       V |
  18+55       2.3269      0.23  Q         |         |         |       V |
  19+ 0       2.3284      0.22  Q         |         |         |       V |
  19+ 5       2.3304      0.28  |Q        |         |         |       V |
  19+10       2.3326      0.32  |Q        |         |         |       V |
  19+15       2.3348      0.33  |Q        |         |         |       V |
  19+20       2.3375      0.39  |Q        |         |         |       V |
  19+25       2.3405      0.43  |Q        |         |         |       V |
  19+30       2.3435      0.44  |Q        |         |         |       V |
  19+35       2.3461      0.37  |Q        |         |         |       V |
  19+40       2.3484      0.33  |Q        |         |         |       V |
  19+45       2.3506      0.33  |Q        |         |         |       V |
  19+50       2.3525      0.27  |Q        |         |         |       V |
  19+55       2.3540      0.23  Q         |         |         |       V |
  20+ 0       2.3555      0.22  Q         |         |         |       V |
  20+ 5       2.3574      0.28  |Q        |         |         |       V |
  20+10       2.3596      0.32  |Q        |         |         |       V |
  20+15       2.3619      0.33  |Q        |         |         |       V |
  20+20       2.3642      0.33  |Q        |         |         |       V |
  20+25       2.3664      0.33  |Q        |         |         |       V |
  20+30       2.3687      0.33  |Q        |         |         |       V |
  20+35       2.3709      0.33  |Q        |         |         |       V |
  20+40       2.3732      0.33  |Q        |         |         |       V |
  20+45       2.3754      0.33  |Q        |         |         |       V |
  20+50       2.3773      0.27  |Q        |         |         |       V |
  20+55       2.3788      0.23  Q         |         |         |       V |
  21+ 0       2.3803      0.22  Q         |         |         |       V |
  21+ 5       2.3822      0.28  |Q        |         |         |        V|
  21+10       2.3844      0.32  |Q        |         |         |        V|
  21+15       2.3867      0.33  |Q        |         |         |        V|
  21+20       2.3885      0.27  |Q        |         |         |        V|
  21+25       2.3901      0.23  Q         |         |         |        V|
  21+30       2.3916      0.22  Q         |         |         |        V|
  21+35       2.3935      0.28  |Q        |         |         |        V|
  21+40       2.3957      0.32  |Q        |         |         |        V|
  21+45       2.3980      0.33  |Q        |         |         |        V|
  21+50       2.3998      0.27  |Q        |         |         |        V|
  21+55       2.4014      0.23  Q         |         |         |        V|
  22+ 0       2.4029      0.22  Q         |         |         |        V|
  22+ 5       2.4048      0.28  |Q        |         |         |        V|
  22+10       2.4070      0.32  |Q        |         |         |        V|
  22+15       2.4093      0.33  |Q        |         |         |        V|
  22+20       2.4111      0.27  |Q        |         |         |        V|
  22+25       2.4126      0.23  Q         |         |         |        V|
  22+30       2.4141      0.22  Q         |         |         |        V|
  22+35       2.4156      0.22  Q         |         |         |        V|
  22+40       2.4171      0.22  Q         |         |         |        V|
  22+45       2.4186      0.22  Q         |         |         |        V|
  22+50       2.4202      0.22  Q         |         |         |        V|
  22+55       2.4217      0.22  Q         |         |         |        V|
  23+ 0       2.4232      0.22  Q         |         |         |        V|
  23+ 5       2.4247      0.22  Q         |         |         |        V|
  23+10       2.4262      0.22  Q         |         |         |        V|
  23+15       2.4277      0.22  Q         |         |         |        V|
  23+20       2.4292      0.22  Q         |         |         |        V|
  23+25       2.4307      0.22  Q         |         |         |        V|
  23+30       2.4322      0.22  Q         |         |         |        V|
  23+35       2.4337      0.22  Q         |         |         |        V|
  23+40       2.4352      0.22  Q         |         |         |        V|
  23+45       2.4367      0.22  Q         |         |         |        V|
  23+50       2.4382      0.22  Q         |         |         |        V|
  23+55       2.4397      0.22  Q         |         |         |        V|
  24+ 0       2.4412      0.22  Q         |         |         |        V|
  24+ 5       2.4418      0.09  Q         |         |         |        V|
  24+10       2.4419      0.01  Q         |         |         |         V
-------------------------------------------------------------------------
```

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 04/15/22 File: 21994PB1100.out

++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

21-994 WILDOMAR TRAIL
DRAINAGE AREA B - RESIDENTIAL
100-YEAR STORM EVENT

1-Year Storm Event

Drainage Area = 4.43(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.43(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 955.00(Ft.)
Length along longest watercourse measured to centroid = 575.00(Ft.)
Length along longest watercourse = 0.181 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 23.00(Ft.)
Slope along watercourse = 127.1623 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.032 Hr.
Lag time = 1.93 Min.
25% of lag time = 0.48 Min.
40% of lag time = 0.77 Min.
Unit time = 5.00 Min.
Duration of storm = 1 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.43	0.60	2.66

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.43	1.45	6.42

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 0.600(In)
Area Averaged 100-Year Rainfall = 1.450(In)

Point rain (area averaged) = 1.450(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 1.450(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.430	75.00	0.800

Total Area Entered = 4.43(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.800	0.085	1.000	0.085
					Sum (F) =	0.085

Area averaged mean soil loss (F) (In/Hr) = 0.085
Minimum soil loss rate ((In/Hr)) = 0.042

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.260

Slope of intensity-duration curve for a 1 hour storm =0.4800

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)	Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1 0.083	258.506	51.981	2.321
2 0.167	517.013	39.533	1.765
3 0.250	775.519	6.750	0.301
4 0.333	1034.025	1.736	0.078
	Sum = 100.000	Sum=	4.465

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1 0.08	4.40	0.766	0.085	(0.199)	0.681
2 0.17	4.50	0.783	0.085	(0.204)	0.698
3 0.25	5.40	0.940	0.085	(0.244)	0.855
4 0.33	5.40	0.940	0.085	(0.244)	0.855
5 0.42	5.70	0.992	0.085	(0.258)	0.907
6 0.50	6.40	1.114	0.085	(0.290)	1.029
7 0.58	7.90	1.375	0.085	(0.357)	1.290
8 0.67	9.10	1.583	0.085	(0.412)	1.498
9 0.75	12.80	2.227	0.085	(0.579)	2.142
10 0.83	25.60	4.454	0.085	(1.158)	4.369
11 0.92	7.90	1.375	0.085	(0.357)	1.290
12 1.00	4.90	0.853	0.085	(0.222)	0.768
	(Loss Rate Not Used)				
Sum =	100.0			Sum =	16.4

Flood volume = Effective rainfall 1.37(In)
times area 4.4(Ac.)/[(In)/(Ft.)] = 0.5(Ac.Ft)
Total soil loss = 0.08(In)
Total soil loss = 0.031(Ac.Ft)
Total rainfall = 1.45(In)
Flood volume = 21952.1 Cubic Feet
Total soil loss = 1364.3 Cubic Feet

Peak flow rate of this hydrograph = 14.480(CFS)

++

1 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))

Time(h+m)	Volume Ac.Ft	Q(CFS)	0 5.0 10.0 15.0 20.0
0+ 5	0.0109	1.58	V Q
0+10	0.0303	2.82	V Q
0+15	0.0539	3.42	V Q
0+20	0.0798	3.76	VQ
0+25	0.1068	3.93	QV
0+30	0.1365	4.31	Q V
0+35	0.1720	5.15	Q V
0+40	0.2143	6.14	Q V
0+45	0.2700	8.09	Q
0+50	0.3697	14.48	QV
0+55	0.4487	11.47	Q V
1+ 0	0.4869	5.54	Q V
1+ 5	0.5013	2.08	Q V
1+10	0.5035	0.33	Q V
1+15	0.5040	0.06	Q V

```
       U n i t   H y d r o g r a p h   A n a l y s i s

       Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
              Study date  04/15/22 File: 21994PB3100.out

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6310

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------
21-994 WILDOMAR TRAIL
DRAINAGE AREA B - RESIDENTIAL
100-YEAR STORM EVENT
```

3-Year Storm Event

```
------------------------------------------------------------------------
Drainage Area =       4.43(Ac.)  =      0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       4.43(Ac.)  =      0.007 Sq. Mi.
Length along longest watercourse =     955.00(Ft.)
Length along longest watercourse measured to centroid =     575.00(Ft.)
Length along longest watercourse =      0.181 Mi.
Length along longest watercourse measured to centroid =      0.109 Mi.
Difference in elevation =      23.00(Ft.)
Slope along watercourse =    127.1623 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.032 Hr.
Lag time =     1.93 Min.
25% of lag time =     0.48 Min.
40% of lag time =     0.77 Min.
Unit time =     5.00 Min.
Duration of storm = 3 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.43           1.05                 4.65

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.43           2.55                11.30

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    1.050(In)
Area Averaged 100-Year Rainfall =    2.550(In)

Point rain (area averaged) =    2.550(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    2.550(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.430           75.00         0.800
 Total Area Entered =      4.43(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
75.0  75.0      0.303     0.800        0.085       1.000      0.085
                                                 Sum (F) =   0.085
Area averaged mean soil loss (F) (In/Hr) =  0.085
Minimum soil loss rate ((In/Hr)) =  0.042
```

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.260

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %		Unit Hydrograph (CFS)
1	0.083	258.506	51.981		2.321
2	0.167	517.013	39.533		1.765
3	0.250	775.519	6.750		0.301
4	0.333	1034.025	1.736		0.078
			Sum = 100.000	Sum=	4.465

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

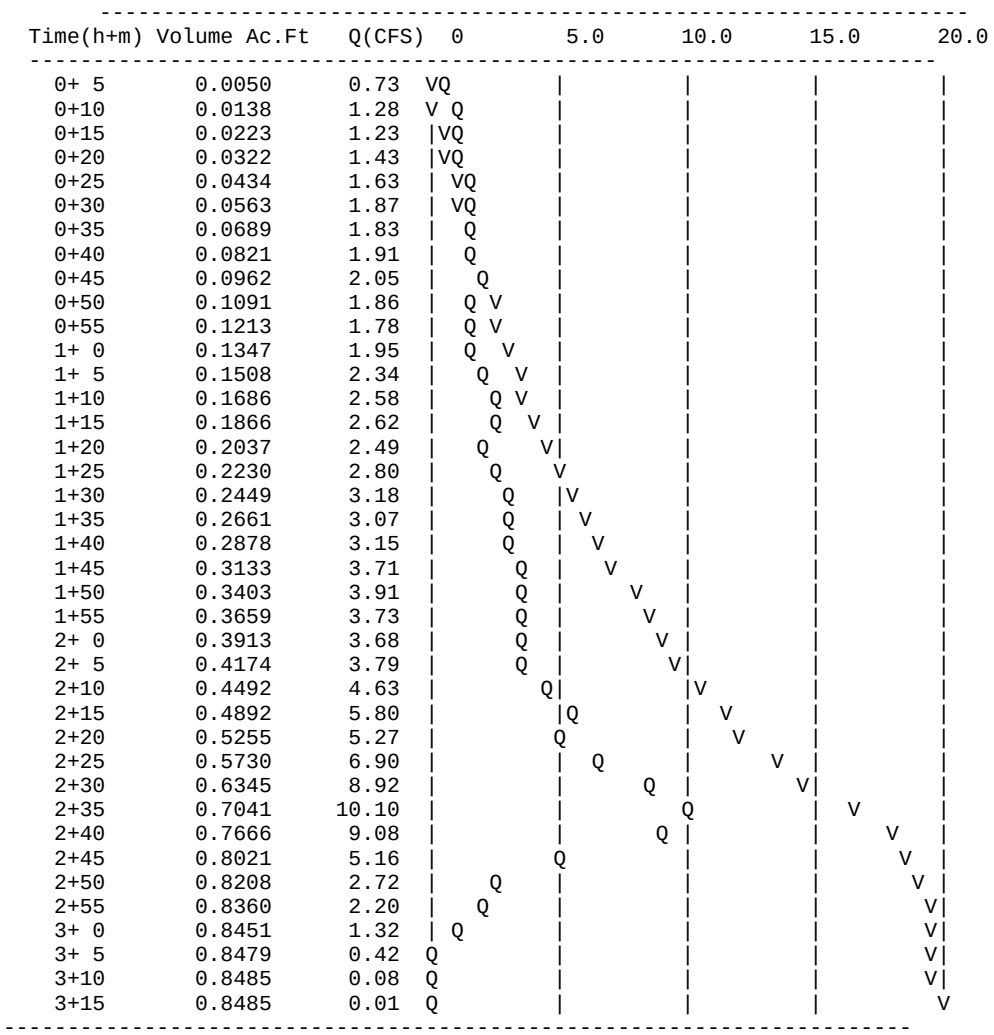
Unit Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	1.30	0.398	0.085	(0.103)	0.313
2	0.17	1.30	0.398	0.085	(0.103)	0.313
3	0.25	1.10	0.337	0.085	(0.088)	0.252
4	0.33	1.50	0.459	0.085	(0.119)	0.374
5	0.42	1.50	0.459	0.085	(0.119)	0.374
6	0.50	1.80	0.551	0.085	(0.143)	0.466
7	0.58	1.50	0.459	0.085	(0.119)	0.374
8	0.67	1.80	0.551	0.085	(0.143)	0.466
9	0.75	1.80	0.551	0.085	(0.143)	0.466
10	0.83	1.50	0.459	0.085	(0.119)	0.374
11	0.92	1.60	0.490	0.085	(0.127)	0.405
12	1.00	1.80	0.551	0.085	(0.143)	0.466
13	1.08	2.20	0.673	0.085	(0.175)	0.588
14	1.17	2.20	0.673	0.085	(0.175)	0.588
15	1.25	2.20	0.673	0.085	(0.175)	0.588
16	1.33	2.00	0.612	0.085	(0.159)	0.527
17	1.42	2.60	0.796	0.085	(0.207)	0.711
18	1.50	2.70	0.826	0.085	(0.215)	0.741
19	1.58	2.40	0.734	0.085	(0.191)	0.650
20	1.67	2.70	0.826	0.085	(0.215)	0.741
21	1.75	3.30	1.010	0.085	(0.263)	0.925
22	1.83	3.10	0.949	0.085	(0.247)	0.864
23	1.92	2.90	0.887	0.085	(0.231)	0.803
24	2.00	3.00	0.918	0.085	(0.239)	0.833
25	2.08	3.10	0.949	0.085	(0.247)	0.864
26	2.17	4.20	1.285	0.085	(0.334)	1.200
27	2.25	5.00	1.530	0.085	(0.398)	1.445
28	2.33	3.50	1.071	0.085	(0.278)	0.986
29	2.42	6.80	2.081	0.085	(0.541)	1.996
30	2.50	7.30	2.234	0.085	(0.581)	2.149
31	2.58	8.20	2.509	0.085	(0.652)	2.424
32	2.67	5.90	1.805	0.085	(0.469)	1.721
33	2.75	2.00	0.612	0.085	(0.159)	0.527
34	2.83	1.80	0.551	0.085	(0.143)	0.466
35	2.92	1.80	0.551	0.085	(0.143)	0.466
36	3.00	0.60	0.184	(0.085)	0.048	0.136
		(Loss Rate Not Used)				
Sum =		100.0			Sum =	27.6

Flood volume = Effective rainfall 2.30(In)
times area 4.4(Ac.)/[(In)/(Ft.)] = 0.8(Ac.Ft)
Total soil loss = 0.25(In)
Total soil loss = 0.093(Ac.Ft)
Total rainfall = 2.55(In)
Flood volume = 36962.3 Cubic Feet
Total soil loss = 4043.2 Cubic Feet

Peak flow rate of this hydrograph = 10.102(CFS)

3 - H O U R S T O R M
R u n o f f H y d r o g r a p h

Hydrograph in 5 Minute intervals ((CFS))


Time(h+m) Volume Ac.Ft Q(CFS) 0 5.0 10.0 15.0 20.0
0+ 5 0.0050 0.73
0+10 0.0138 1.28
0+15 0.0223 1.23
0+20 0.0322 1.43
0+25 0.0434 1.63
0+30 0.0563 1.87
0+35 0.0689 1.83
0+40 0.0821 1.91
0+45 0.0962 2.05
0+50 0.1091 1.86
0+55 0.1213 1.78
1+ 0 0.1347 1.95
1+ 5 0.1508 2.34
1+10 0.1686 2.58
1+15 0.1866 2.62
1+20 0.2037 2.49
1+25 0.2230 2.80
1+30 0.2449 3.18
1+35 0.2661 3.07
1+40 0.2878 3.15
1+45 0.3133 3.71
1+50 0.3403 3.91
1+55 0.3659 3.73
2+ 0 0.3913 3.68
2+ 5 0.4174 3.79
2+10 0.4492 4.63
2+15 0.4892 5.80
2+20 0.5255 5.27
2+25 0.5730 6.90
2+30 0.6345 8.92
2+35 0.7041 10.10
2+40 0.7666 9.08
2+45 0.8021 5.16
2+50 0.8208 2.72
2+55 0.8360 2.20
3+ 0 0.8451 1.32
3+ 5 0.8479 0.42
3+10 0.8485 0.08
3+15 0.8485 0.01

U n i t H y d r o g r a p h A n a l y s i s

Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
Study date 04/15/22 File: 21994PB6100.out

++

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978

Program License Serial Number 6310

English (in-lb) Input Units Used
English Rainfall Data (Inches) Input Values Used

English Units used in output format

21-994 WILDOMAR TRAIL
DRAINAGE AREA B - RESIDENTIAL
100-YEAR STORM EVENT

6-Year Storm Event

Drainage Area = 4.43(Ac.) = 0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment = 4.43(Ac.) = 0.007 Sq. Mi.
Length along longest watercourse = 955.00(Ft.)
Length along longest watercourse measured to centroid = 575.00(Ft.)
Length along longest watercourse = 0.181 Mi.
Length along longest watercourse measured to centroid = 0.109 Mi.
Difference in elevation = 23.00(Ft.)
Slope along watercourse = 127.1623 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time = 0.032 Hr.
Lag time = 1.93 Min.
25% of lag time = 0.48 Min.
40% of lag time = 0.77 Min.
Unit time = 5.00 Min.
Duration of storm = 6 Hour(s)
User Entered Base Flow = 0.00(CFS)

2 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.43	1.50	6.64

100 YEAR Area rainfall data:

Area(Ac.)[1]	Rainfall(In)[2]	Weighting[1*2]
4.43	3.60	15.95

STORM EVENT (YEAR) = 100.00
Area Averaged 2-Year Rainfall = 1.500(In)
Area Averaged 100-Year Rainfall = 3.600(In)

Point rain (area averaged) = 3.600(In)
Areal adjustment factor = 100.00 %
Adjusted average point rain = 3.600(In)

Sub-Area Data:

Area(Ac.)	Runoff Index	Impervious %
4.430	75.00	0.800

Total Area Entered = 4.43(Ac.)

RI AMC2	RI AMC-2	Infil. Rate (In/Hr)	Impervious (Dec.%)	Adj. Infil. Rate (In/Hr)	Area% (Dec.)	F (In/Hr)
75.0	75.0	0.303	0.800	0.085	1.000	0.085
					Sum (F) =	0.085

Area averaged mean soil loss (F) (In/Hr) = 0.085
Minimum soil loss rate ((In/Hr)) = 0.042

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.260

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %		Unit Hydrograph (CFS)
1	0.083	258.506	51.981		2.321
2	0.167	517.013	39.533		1.765
3	0.250	775.519	6.750		0.301
4	0.333	1034.025	1.736		0.078
			Sum = 100.000	Sum=	4.465

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max		Low	Effective (In/Hr)
1	0.08	0.50	0.216	(0.085)		0.056	0.160
2	0.17	0.60	0.259	(0.085)		0.067	0.192
3	0.25	0.60	0.259	(0.085)		0.067	0.192
4	0.33	0.60	0.259	(0.085)		0.067	0.192
5	0.42	0.60	0.259	(0.085)		0.067	0.192
6	0.50	0.70	0.302	(0.085)		0.079	0.224
7	0.58	0.70	0.302	(0.085)		0.079	0.224
8	0.67	0.70	0.302	(0.085)		0.079	0.224
9	0.75	0.70	0.302	(0.085)		0.079	0.224
10	0.83	0.70	0.302	(0.085)		0.079	0.224
11	0.92	0.70	0.302	(0.085)		0.079	0.224
12	1.00	0.80	0.346	0.085	(	0.090)	0.261
13	1.08	0.80	0.346	0.085	(	0.090)	0.261
14	1.17	0.80	0.346	0.085	(	0.090)	0.261
15	1.25	0.80	0.346	0.085	(	0.090)	0.261
16	1.33	0.80	0.346	0.085	(	0.090)	0.261
17	1.42	0.80	0.346	0.085	(	0.090)	0.261
18	1.50	0.80	0.346	0.085	(	0.090)	0.261
19	1.58	0.80	0.346	0.085	(	0.090)	0.261
20	1.67	0.80	0.346	0.085	(	0.090)	0.261
21	1.75	0.80	0.346	0.085	(	0.090)	0.261
22	1.83	0.80	0.346	0.085	(	0.090)	0.261
23	1.92	0.80	0.346	0.085	(	0.090)	0.261
24	2.00	0.90	0.389	0.085	(	0.101)	0.304
25	2.08	0.80	0.346	0.085	(	0.090)	0.261
26	2.17	0.90	0.389	0.085	(	0.101)	0.304
27	2.25	0.90	0.389	0.085	(	0.101)	0.304
28	2.33	0.90	0.389	0.085	(	0.101)	0.304
29	2.42	0.90	0.389	0.085	(	0.101)	0.304
30	2.50	0.90	0.389	0.085	(	0.101)	0.304
31	2.58	0.90	0.389	0.085	(	0.101)	0.304
32	2.67	0.90	0.389	0.085	(	0.101)	0.304
33	2.75	1.00	0.432	0.085	(	0.112)	0.347
34	2.83	1.00	0.432	0.085	(	0.112)	0.347
35	2.92	1.00	0.432	0.085	(	0.112)	0.347
36	3.00	1.00	0.432	0.085	(	0.112)	0.347
37	3.08	1.00	0.432	0.085	(	0.112)	0.347
38	3.17	1.10	0.475	0.085	(	0.124)	0.390
39	3.25	1.10	0.475	0.085	(	0.124)	0.390
40	3.33	1.10	0.475	0.085	(	0.124)	0.390
41	3.42	1.20	0.518	0.085	(	0.135)	0.434
42	3.50	1.30	0.562	0.085	(	0.146)	0.477
43	3.58	1.40	0.605	0.085	(	0.157)	0.520
44	3.67	1.40	0.605	0.085	(	0.157)	0.520
45	3.75	1.50	0.648	0.085	(	0.168)	0.563
46	3.83	1.50	0.648	0.085	(	0.168)	0.563
47	3.92	1.60	0.691	0.085	(	0.180)	0.606
48	4.00	1.60	0.691	0.085	(	0.180)	0.606
49	4.08	1.70	0.734	0.085	(	0.191)	0.650
50	4.17	1.80	0.778	0.085	(	0.202)	0.693
51	4.25	1.90	0.821	0.085	(	0.213)	0.736
52	4.33	2.00	0.864	0.085	(	0.225)	0.779
53	4.42	2.10	0.907	0.085	(	0.236)	0.822
54	4.50	2.10	0.907	0.085	(	0.236)	0.822

```
55   4.58     2.20      0.950          0.085    (  0.247)        0.866
56   4.67     2.30      0.994          0.085    (  0.258)        0.909
57   4.75     2.40      1.037          0.085    (  0.270)        0.952
58   4.83     2.40      1.037          0.085    (  0.270)        0.952
59   4.92     2.50      1.080          0.085    (  0.281)        0.995
60   5.00     2.60      1.123          0.085    (  0.292)        1.038
61   5.08     3.10      1.339          0.085    (  0.348)        1.254
62   5.17     3.60      1.555          0.085    (  0.404)        1.470
63   5.25     3.90      1.685          0.085    (  0.438)        1.600
64   5.33     4.20      1.814          0.085    (  0.472)        1.730
65   5.42     4.70      2.030          0.085    (  0.528)        1.946
66   5.50     5.60      2.419          0.085    (  0.629)        2.334
67   5.58     1.90      0.821          0.085    (  0.213)        0.736
68   5.67     0.90      0.389          0.085    (  0.101)        0.304
69   5.75     0.60      0.259       (  0.085)       0.067        0.192
70   5.83     0.50      0.216       (  0.085)       0.056        0.160
71   5.92     0.30      0.130       (  0.085)       0.034        0.096
72   6.00     0.20      0.086       (  0.085)       0.022        0.064
              (Loss Rate Not Used)
   Sum =     100.0                                    Sum =    37.4
      Flood volume = Effective rainfall      3.12(In)
       times area       4.4(Ac.)/[(In)/(Ft.)] =       1.2(Ac.Ft)
      Total soil loss =      0.48(In)
      Total soil loss =     0.179(Ac.Ft)
      Total rainfall =      3.60(In)
      Flood volume =       50100.4 Cubic Feet
      Total soil loss =        7789.9 Cubic Feet
      ---------------------------------------------------------------------
       Peak flow rate of this hydrograph =      9.501(CFS)
      ---------------------------------------------------------------------
      +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                          6 - H O U R    S T O R M
                     R u n o f f      H y d r o g r a p h
      ---------------------------------------------------------------------
                  Hydrograph in   5   Minute intervals ((CFS))

      ---------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
-------------------------------------------------------------------------
  0+ 5       0.0026      0.37  VQ       |         |         |         |
  0+10       0.0076      0.73  V Q      |         |         |         |
  0+15       0.0133      0.83  V  Q     |         |         |         |
  0+20       0.0192      0.85  V  Q     |         |         |         |
  0+25       0.0251      0.86  V  Q     |         |         |         |
  0+30       0.0315      0.93  |V Q     |         |         |         |
  0+35       0.0383      0.99  |V Q     |         |         |         |
  0+40       0.0452      1.00  |V Q     |         |         |         |
  0+45       0.0520      1.00  |V Q     |         |         |         |
  0+50       0.0589      1.00  | VQ     |         |         |         |
  0+55       0.0658      1.00  | VQ     |         |         |         |
  1+ 0       0.0733      1.09  | V Q    |         |         |         |
  1+ 5       0.0812      1.15  | V Q    |         |         |         |
  1+10       0.0892      1.16  |  VQ    |         |         |         |
  1+15       0.0972      1.16  |  VQ    |         |         |         |
  1+20       0.1053      1.16  |  VQ    |         |         |         |
  1+25       0.1133      1.16  |  VQ    |         |         |         |
  1+30       0.1213      1.16  |   Q    |         |         |         |
  1+35       0.1293      1.16  |   Q    |         |         |         |
  1+40       0.1373      1.16  |   Q    |         |         |         |
  1+45       0.1454      1.16  |   QV   |         |         |         |
  1+50       0.1534      1.16  |   QV   |         |         |         |
  1+55       0.1614      1.16  |   QV   |         |         |         |
  2+ 0       0.1701      1.27  |    Q   |         |         |         |
  2+ 5       0.1787      1.24  |   Q V  |         |         |         |
  2+10       0.1875      1.28  |    QV  |         |         |         |
  2+15       0.1967      1.34  |    QV  |         |         |         |
  2+20       0.2061      1.35  |    Q V |         |         |         |
  2+25       0.2154      1.36  |    Q V |         |         |         |
  2+30       0.2248      1.36  |    Q V |         |         |         |
  2+35       0.2341      1.36  |    Q  V|         |         |         |
  2+40       0.2435      1.36  |    Q  V|         |         |         |
  2+45       0.2535      1.46  |    Q  V|         |         |         |
  2+50       0.2641      1.53  |     Q  V|        |         |         |
  2+55       0.2747      1.55  |     Q  V|        |         |         |
  3+ 0       0.2854      1.55  |     Q  V|        |         |         |
  3+ 5       0.2961      1.55  |     Q   V        |         |         |
  3+10       0.3075      1.65  |     Q   V        |         |         |
  3+15       0.3194      1.73  |     Q   |V       |         |         |
  3+20       0.3313      1.74  |     Q   |V       |         |         |
```

```
   3+25       0.3440      1.84  |      Q  |V        |          |          |
   3+30       0.3580      2.02  |       Q | V       |          |          |
   3+35       0.3732      2.21  |       Q | V       |          |          |
   3+40       0.3890      2.30  |        Q|  V      |          |          |
   3+45       0.4057      2.42  |        Q|   V     |          |          |
   3+50       0.4229      2.50  |        Q|   V     |          |          |
   3+55       0.4409      2.61  |         Q    V    |          |          |
   4+ 0       0.4595      2.69  |         Q    V    |          |          |
   4+ 5       0.4788      2.81  |         |Q    V   |          |          |
   4+10       0.4993      2.99  |         |Q     V  |          |          |
   4+15       0.5212      3.18  |         | Q     V |          |          |
   4+20       0.5444      3.37  |         |  Q    V |          |          |
   4+25       0.5689      3.56  |         |   Q    V|          |          |
   4+30       0.5941      3.65  |         |   Q     V          |          |
   4+35       0.6200      3.77  |         |    Q    |V         |          |
   4+40       0.6473      3.95  |         |    Q    | V        |          |
   4+45       0.6758      4.14  |         |     Q   |  V       |          |
   4+50       0.7049      4.23  |         |     Q   |   V      |          |
   4+55       0.7349      4.35  |         |      Q  |    V     |          |
   5+ 0       0.7661      4.53  |         |       Q |     V    |          |
   5+ 5       0.8013      5.12  |         |         Q      V  |          |
   5+10       0.8428      6.02  |         |          |   Q    V|          |
   5+15       0.8894      6.77  |         |          |      Q  V          |
   5+20       0.9402      7.38  |         |          |        Q| V        |
   5+25       0.9965      8.17  |         |          |         | Q V      |
   5+30       1.0619      9.50  |         |          |         |     V Q  |
   5+35       1.1071      6.55  |         |          |     Q   |       V  |
   5+40       1.1268      2.86  |         |Q         |         |        V|
   5+45       1.1363      1.39  |    Q    |          |         |        V|
   5+50       1.1422      0.86  |  Q      |          |         |        V|
   5+55       1.1462      0.59  | Q       |          |         |        V|
   6+ 0       1.1489      0.38  |Q        |          |         |        V|
   6+ 5       1.1499      0.15  Q         |          |         |        V|
   6+10       1.1501      0.03  Q         |          |         |        V|
   6+15       1.1501      0.00  Q         |          |         |         V
-------------------------------------------------------------------------


---------------------------------
```

```
       U n i t   H y d r o g r a p h   A n a l y s i s

       Copyright (c) CIVILCADD/CIVILDESIGN, 1989 - 2014, Version 9.0
              Study date  04/15/22 File: 21994PB24100.out


++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
------------------------------------------------------------------------------

Riverside County Synthetic Unit Hydrology Method
RCFC & WCD Manual date - April 1978


Program License Serial Number 6310

------------------------------------------------------------------------
 English (in-lb) Input Units Used
 English Rainfall Data (Inches) Input Values Used

 English Units used in output format



------------------------------------------------------------------------
21-994 WILDOMAR TRAIL
DRAINAGE AREA B - RESIDENTIAL
100-YEAR STORM EVENT
```

24-Year Storm Event

```
------------------------------------------------------------------------
Drainage Area =       4.43(Ac.)  =      0.007 Sq. Mi.
Drainage Area for Depth-Area Areal Adjustment =       4.43(Ac.)  =      0.007 Sq. Mi.
Length along longest watercourse =     955.00(Ft.)
Length along longest watercourse measured to centroid =     575.00(Ft.)
Length along longest watercourse =      0.181 Mi.
Length along longest watercourse measured to centroid =      0.109 Mi.
Difference in elevation =      23.00(Ft.)
Slope along watercourse =    127.1623 Ft./Mi.
Average Manning's 'N' = 0.015
Lag time =    0.032 Hr.
Lag time =     1.93 Min.
25% of lag time =     0.48 Min.
40% of lag time =     0.77 Min.
Unit time =     5.00 Min.
Duration of storm = 24 Hour(s)
User Entered Base Flow =     0.00(CFS)

2 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.43           2.70                 11.96

100 YEAR Area rainfall data:


Area(Ac.)[1]       Rainfall(In)[2]      Weighting[1*2]
        4.43           7.50                 33.22

STORM EVENT (YEAR) =  100.00
Area Averaged 2-Year Rainfall =    2.700(In)
Area Averaged 100-Year Rainfall =    7.500(In)

Point rain (area averaged) =    7.500(In)
Areal adjustment factor =  100.00 %
Adjusted average point rain =    7.500(In)

Sub-Area Data:
Area(Ac.)         Runoff Index   Impervious %
     4.430           75.00         0.800
 Total Area Entered =      4.43(Ac.)


RI    RI   Infil. Rate Impervious   Adj. Infil. Rate  Area%     F
AMC2 AMC-2     (In/Hr)    (Dec.%)     (In/Hr)      (Dec.)    (In/Hr)
75.0  75.0      0.303     0.800        0.085       1.000      0.085
                                                 Sum (F) =   0.085
Area averaged mean soil loss (F) (In/Hr) =  0.085
Minimum soil loss rate ((In/Hr)) =  0.042
```

(for 24 hour storm duration)
Soil low loss rate (decimal) = 0.260

U n i t H y d r o g r a p h
VALLEY S-Curve

Unit Hydrograph Data

Unit time period (hrs)		Time % of lag	Distribution Graph %	Unit Hydrograph (CFS)
1	0.083	258.506	51.981	2.321
2	0.167	517.013	39.533	1.765
3	0.250	775.519	6.750	0.301
4	0.333	1034.025	1.736	0.078
			Sum = 100.000 Sum=	4.465

The following loss rate calculations reflect use of the minimum calculated loss rate subtracted from the Storm Rain to produce the maximum Effective Rain value

Unit	Time (Hr.)	Pattern Percent	Storm Rain (In/Hr)	Loss rate(In./Hr) Max	Low	Effective (In/Hr)
1	0.08	0.07	0.060	(0.150)	0.016	0.044
2	0.17	0.07	0.060	(0.150)	0.016	0.044
3	0.25	0.07	0.060	(0.149)	0.016	0.044
4	0.33	0.10	0.090	(0.149)	0.023	0.067
5	0.42	0.10	0.090	(0.148)	0.023	0.067
6	0.50	0.10	0.090	(0.148)	0.023	0.067
7	0.58	0.10	0.090	(0.147)	0.023	0.067
8	0.67	0.10	0.090	(0.146)	0.023	0.067
9	0.75	0.10	0.090	(0.146)	0.023	0.067
10	0.83	0.13	0.120	(0.145)	0.031	0.089
11	0.92	0.13	0.120	(0.145)	0.031	0.089
12	1.00	0.13	0.120	(0.144)	0.031	0.089
13	1.08	0.10	0.090	(0.143)	0.023	0.067
14	1.17	0.10	0.090	(0.143)	0.023	0.067
15	1.25	0.10	0.090	(0.142)	0.023	0.067
16	1.33	0.10	0.090	(0.142)	0.023	0.067
17	1.42	0.10	0.090	(0.141)	0.023	0.067
18	1.50	0.10	0.090	(0.141)	0.023	0.067
19	1.58	0.10	0.090	(0.140)	0.023	0.067
20	1.67	0.10	0.090	(0.140)	0.023	0.067
21	1.75	0.10	0.090	(0.139)	0.023	0.067
22	1.83	0.13	0.120	(0.138)	0.031	0.089
23	1.92	0.13	0.120	(0.138)	0.031	0.089
24	2.00	0.13	0.120	(0.137)	0.031	0.089
25	2.08	0.13	0.120	(0.137)	0.031	0.089
26	2.17	0.13	0.120	(0.136)	0.031	0.089
27	2.25	0.13	0.120	(0.136)	0.031	0.089
28	2.33	0.13	0.120	(0.135)	0.031	0.089
29	2.42	0.13	0.120	(0.135)	0.031	0.089
30	2.50	0.13	0.120	(0.134)	0.031	0.089
31	2.58	0.17	0.150	(0.133)	0.039	0.111
32	2.67	0.17	0.150	(0.133)	0.039	0.111
33	2.75	0.17	0.150	(0.132)	0.039	0.111
34	2.83	0.17	0.150	(0.132)	0.039	0.111
35	2.92	0.17	0.150	(0.131)	0.039	0.111
36	3.00	0.17	0.150	(0.131)	0.039	0.111
37	3.08	0.17	0.150	(0.130)	0.039	0.111
38	3.17	0.17	0.150	(0.130)	0.039	0.111
39	3.25	0.17	0.150	(0.129)	0.039	0.111
40	3.33	0.17	0.150	(0.129)	0.039	0.111
41	3.42	0.17	0.150	(0.128)	0.039	0.111
42	3.50	0.17	0.150	(0.127)	0.039	0.111
43	3.58	0.17	0.150	(0.127)	0.039	0.111
44	3.67	0.17	0.150	(0.126)	0.039	0.111
45	3.75	0.17	0.150	(0.126)	0.039	0.111
46	3.83	0.20	0.180	(0.125)	0.047	0.133
47	3.92	0.20	0.180	(0.125)	0.047	0.133
48	4.00	0.20	0.180	(0.124)	0.047	0.133
49	4.08	0.20	0.180	(0.124)	0.047	0.133
50	4.17	0.20	0.180	(0.123)	0.047	0.133
51	4.25	0.20	0.180	(0.123)	0.047	0.133
52	4.33	0.23	0.210	(0.122)	0.055	0.155
53	4.42	0.23	0.210	(0.122)	0.055	0.155
54	4.50	0.23	0.210	(0.121)	0.055	0.155

55	4.58	0.23	0.210	(	0.121)	0.055		0.155
56	4.67	0.23	0.210	(	0.120)	0.055		0.155
57	4.75	0.23	0.210	(	0.120)	0.055		0.155
58	4.83	0.27	0.240	(	0.119)	0.062		0.178
59	4.92	0.27	0.240	(	0.119)	0.062		0.178
60	5.00	0.27	0.240	(	0.118)	0.062		0.178
61	5.08	0.20	0.180	(	0.118)	0.047		0.133
62	5.17	0.20	0.180	(	0.117)	0.047		0.133
63	5.25	0.20	0.180	(	0.117)	0.047		0.133
64	5.33	0.23	0.210	(	0.116)	0.055		0.155
65	5.42	0.23	0.210	(	0.116)	0.055		0.155
66	5.50	0.23	0.210	(	0.115)	0.055		0.155
67	5.58	0.27	0.240	(	0.114)	0.062		0.178
68	5.67	0.27	0.240	(	0.114)	0.062		0.178
69	5.75	0.27	0.240	(	0.113)	0.062		0.178
70	5.83	0.27	0.240	(	0.113)	0.062		0.178
71	5.92	0.27	0.240	(	0.112)	0.062		0.178
72	6.00	0.27	0.240	(	0.112)	0.062		0.178
73	6.08	0.30	0.270	(	0.111)	0.070		0.200
74	6.17	0.30	0.270	(	0.111)	0.070		0.200
75	6.25	0.30	0.270	(	0.110)	0.070		0.200
76	6.33	0.30	0.270	(	0.110)	0.070		0.200
77	6.42	0.30	0.270	(	0.110)	0.070		0.200
78	6.50	0.30	0.270	(	0.109)	0.070		0.200
79	6.58	0.33	0.300	(	0.109)	0.078		0.222
80	6.67	0.33	0.300	(	0.108)	0.078		0.222
81	6.75	0.33	0.300	(	0.108)	0.078		0.222
82	6.83	0.33	0.300	(	0.107)	0.078		0.222
83	6.92	0.33	0.300	(	0.107)	0.078		0.222
84	7.00	0.33	0.300	(	0.106)	0.078		0.222
85	7.08	0.33	0.300	(	0.106)	0.078		0.222
86	7.17	0.33	0.300	(	0.105)	0.078		0.222
87	7.25	0.33	0.300	(	0.105)	0.078		0.222
88	7.33	0.37	0.330	(	0.104)	0.086		0.244
89	7.42	0.37	0.330	(	0.104)	0.086		0.244
90	7.50	0.37	0.330	(	0.103)	0.086		0.244
91	7.58	0.40	0.360	(	0.103)	0.094		0.266
92	7.67	0.40	0.360	(	0.102)	0.094		0.266
93	7.75	0.40	0.360	(	0.102)	0.094		0.266
94	7.83	0.43	0.390		0.101	(	0.101)	0.289
95	7.92	0.43	0.390		0.101	(	0.101)	0.289
96	8.00	0.43	0.390		0.100	(	0.101)	0.290
97	8.08	0.50	0.450		0.100	(	0.117)	0.350
98	8.17	0.50	0.450		0.099	(	0.117)	0.351
99	8.25	0.50	0.450		0.099	(	0.117)	0.351
100	8.33	0.50	0.450		0.099	(	0.117)	0.351
101	8.42	0.50	0.450		0.098	(	0.117)	0.352
102	8.50	0.50	0.450		0.098	(	0.117)	0.352
103	8.58	0.53	0.480		0.097	(	0.125)	0.383
104	8.67	0.53	0.480		0.097	(	0.125)	0.383
105	8.75	0.53	0.480		0.096	(	0.125)	0.384
106	8.83	0.57	0.510		0.096	(	0.133)	0.414
107	8.92	0.57	0.510		0.095	(	0.133)	0.415
108	9.00	0.57	0.510		0.095	(	0.133)	0.415
109	9.08	0.63	0.570		0.094	(	0.148)	0.476
110	9.17	0.63	0.570		0.094	(	0.148)	0.476
111	9.25	0.63	0.570		0.094	(	0.148)	0.476
112	9.33	0.67	0.600		0.093	(	0.156)	0.507
113	9.42	0.67	0.600		0.093	(	0.156)	0.507
114	9.50	0.67	0.600		0.092	(	0.156)	0.508
115	9.58	0.70	0.630		0.092	(	0.164)	0.538
116	9.67	0.70	0.630		0.091	(	0.164)	0.539
117	9.75	0.70	0.630		0.091	(	0.164)	0.539
118	9.83	0.73	0.660		0.090	(	0.172)	0.570
119	9.92	0.73	0.660		0.090	(	0.172)	0.570
120	10.00	0.73	0.660		0.090	(	0.172)	0.570
121	10.08	0.50	0.450		0.089	(	0.117)	0.361
122	10.17	0.50	0.450		0.089	(	0.117)	0.361
123	10.25	0.50	0.450		0.088	(	0.117)	0.362
124	10.33	0.50	0.450		0.088	(	0.117)	0.362
125	10.42	0.50	0.450		0.087	(	0.117)	0.363
126	10.50	0.50	0.450		0.087	(	0.117)	0.363
127	10.58	0.67	0.600		0.087	(	0.156)	0.513
128	10.67	0.67	0.600		0.086	(	0.156)	0.514
129	10.75	0.67	0.600		0.086	(	0.156)	0.514
130	10.83	0.67	0.600		0.085	(	0.156)	0.515
131	10.92	0.67	0.600		0.085	(	0.156)	0.515
132	11.00	0.67	0.600		0.084	(	0.156)	0.516
133	11.08	0.63	0.570		0.084	(	0.148)	0.486

134	11.17	0.63	0.570	0.084	(0.148)	0.486
135	11.25	0.63	0.570	0.083	(0.148)	0.487
136	11.33	0.63	0.570	0.083	(0.148)	0.487
137	11.42	0.63	0.570	0.082	(0.148)	0.488
138	11.50	0.63	0.570	0.082	(0.148)	0.488
139	11.58	0.57	0.510	0.082	(0.133)	0.428
140	11.67	0.57	0.510	0.081	(0.133)	0.429
141	11.75	0.57	0.510	0.081	(0.133)	0.429
142	11.83	0.60	0.540	0.080	(0.140)	0.460
143	11.92	0.60	0.540	0.080	(0.140)	0.460
144	12.00	0.60	0.540	0.080	(0.140)	0.460
145	12.08	0.83	0.750	0.079	(0.195)	0.671
146	12.17	0.83	0.750	0.079	(0.195)	0.671
147	12.25	0.83	0.750	0.078	(0.195)	0.672
148	12.33	0.87	0.780	0.078	(0.203)	0.702
149	12.42	0.87	0.780	0.078	(0.203)	0.702
150	12.50	0.87	0.780	0.077	(0.203)	0.703
151	12.58	0.93	0.840	0.077	(0.218)	0.763
152	12.67	0.93	0.840	0.076	(0.218)	0.764
153	12.75	0.93	0.840	0.076	(0.218)	0.764
154	12.83	0.97	0.870	0.076	(0.226)	0.794
155	12.92	0.97	0.870	0.075	(0.226)	0.795
156	13.00	0.97	0.870	0.075	(0.226)	0.795
157	13.08	1.13	1.020	0.075	(0.265)	0.945
158	13.17	1.13	1.020	0.074	(0.265)	0.946
159	13.25	1.13	1.020	0.074	(0.265)	0.946
160	13.33	1.13	1.020	0.073	(0.265)	0.947
161	13.42	1.13	1.020	0.073	(0.265)	0.947
162	13.50	1.13	1.020	0.073	(0.265)	0.947
163	13.58	0.77	0.690	0.072	(0.179)	0.618
164	13.67	0.77	0.690	0.072	(0.179)	0.618
165	13.75	0.77	0.690	0.072	(0.179)	0.618
166	13.83	0.77	0.690	0.071	(0.179)	0.619
167	13.92	0.77	0.690	0.071	(0.179)	0.619
168	14.00	0.77	0.690	0.070	(0.179)	0.620
169	14.08	0.90	0.810	0.070	(0.211)	0.740
170	14.17	0.90	0.810	0.070	(0.211)	0.740
171	14.25	0.90	0.810	0.069	(0.211)	0.741
172	14.33	0.87	0.780	0.069	(0.203)	0.711
173	14.42	0.87	0.780	0.069	(0.203)	0.711
174	14.50	0.87	0.780	0.068	(0.203)	0.712
175	14.58	0.87	0.780	0.068	(0.203)	0.712
176	14.67	0.87	0.780	0.068	(0.203)	0.712
177	14.75	0.87	0.780	0.067	(0.203)	0.713
178	14.83	0.83	0.750	0.067	(0.195)	0.683
179	14.92	0.83	0.750	0.067	(0.195)	0.683
180	15.00	0.83	0.750	0.066	(0.195)	0.684
181	15.08	0.80	0.720	0.066	(0.187)	0.654
182	15.17	0.80	0.720	0.066	(0.187)	0.654
183	15.25	0.80	0.720	0.065	(0.187)	0.655
184	15.33	0.77	0.690	0.065	(0.179)	0.625
185	15.42	0.77	0.690	0.065	(0.179)	0.625
186	15.50	0.77	0.690	0.064	(0.179)	0.626
187	15.58	0.63	0.570	0.064	(0.148)	0.506
188	15.67	0.63	0.570	0.064	(0.148)	0.506
189	15.75	0.63	0.570	0.063	(0.148)	0.507
190	15.83	0.63	0.570	0.063	(0.148)	0.507
191	15.92	0.63	0.570	0.063	(0.148)	0.507
192	16.00	0.63	0.570	0.062	(0.148)	0.508
193	16.08	0.13	0.120	(0.062)	0.031	0.089
194	16.17	0.13	0.120	(0.062)	0.031	0.089
195	16.25	0.13	0.120	(0.061)	0.031	0.089
196	16.33	0.13	0.120	(0.061)	0.031	0.089
197	16.42	0.13	0.120	(0.061)	0.031	0.089
198	16.50	0.13	0.120	(0.060)	0.031	0.089
199	16.58	0.10	0.090	(0.060)	0.023	0.067
200	16.67	0.10	0.090	(0.060)	0.023	0.067
201	16.75	0.10	0.090	(0.060)	0.023	0.067
202	16.83	0.10	0.090	(0.059)	0.023	0.067
203	16.92	0.10	0.090	(0.059)	0.023	0.067
204	17.00	0.10	0.090	(0.059)	0.023	0.067
205	17.08	0.17	0.150	(0.058)	0.039	0.111
206	17.17	0.17	0.150	(0.058)	0.039	0.111
207	17.25	0.17	0.150	(0.058)	0.039	0.111
208	17.33	0.17	0.150	(0.057)	0.039	0.111
209	17.42	0.17	0.150	(0.057)	0.039	0.111
210	17.50	0.17	0.150	(0.057)	0.039	0.111
211	17.58	0.17	0.150	(0.057)	0.039	0.111
212	17.67	0.17	0.150	(0.056)	0.039	0.111

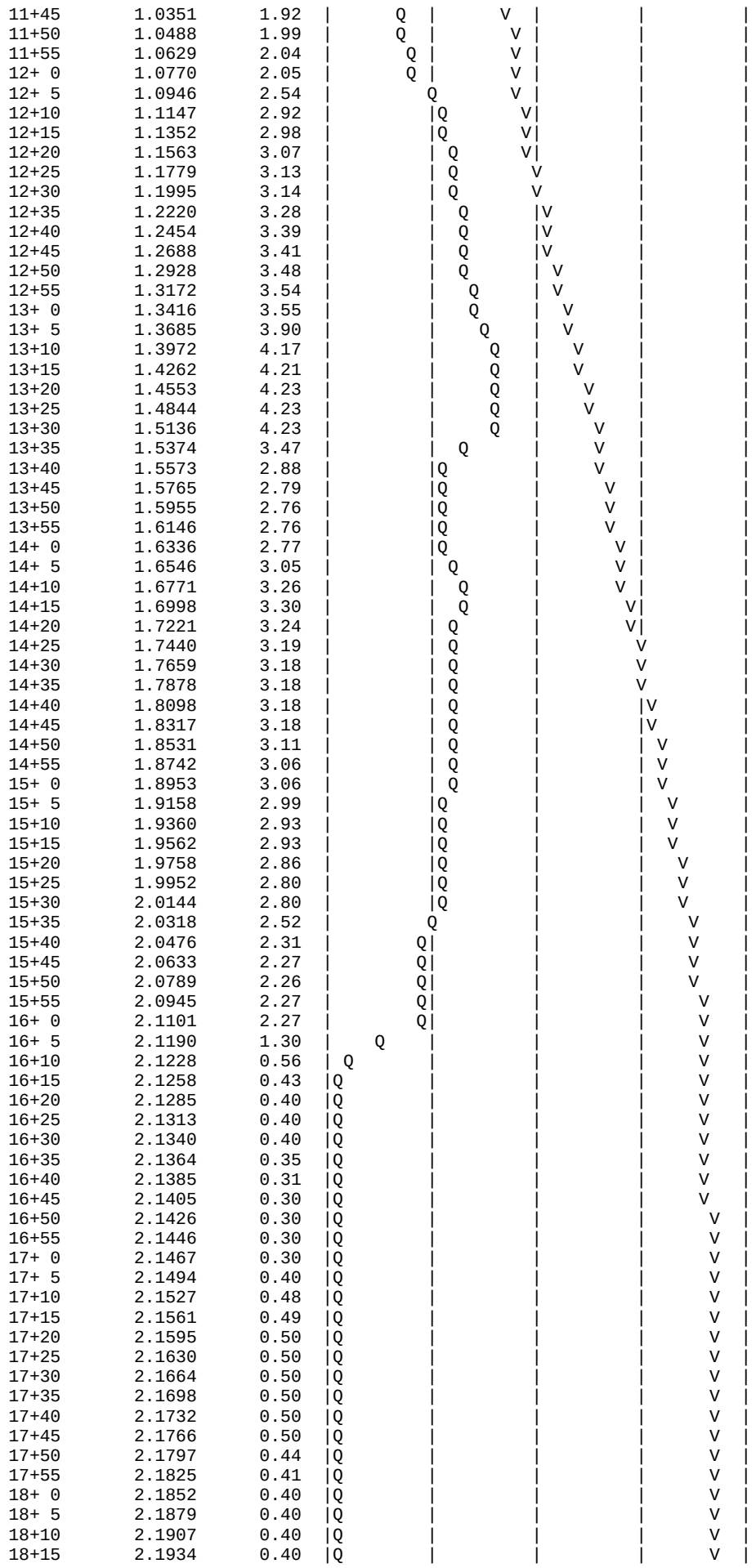
213	17.75	0.17	0.150	(0.056)	0.039	0.111
214	17.83	0.13	0.120	(0.056)	0.031	0.089
215	17.92	0.13	0.120	(0.055)	0.031	0.089
216	18.00	0.13	0.120	(0.055)	0.031	0.089
217	18.08	0.13	0.120	(0.055)	0.031	0.089
218	18.17	0.13	0.120	(0.055)	0.031	0.089
219	18.25	0.13	0.120	(0.054)	0.031	0.089
220	18.33	0.13	0.120	(0.054)	0.031	0.089
221	18.42	0.13	0.120	(0.054)	0.031	0.089
222	18.50	0.13	0.120	(0.054)	0.031	0.089
223	18.58	0.10	0.090	(0.053)	0.023	0.067
224	18.67	0.10	0.090	(0.053)	0.023	0.067
225	18.75	0.10	0.090	(0.053)	0.023	0.067
226	18.83	0.07	0.060	(0.053)	0.016	0.044
227	18.92	0.07	0.060	(0.052)	0.016	0.044
228	19.00	0.07	0.060	(0.052)	0.016	0.044
229	19.08	0.10	0.090	(0.052)	0.023	0.067
230	19.17	0.10	0.090	(0.052)	0.023	0.067
231	19.25	0.10	0.090	(0.051)	0.023	0.067
232	19.33	0.13	0.120	(0.051)	0.031	0.089
233	19.42	0.13	0.120	(0.051)	0.031	0.089
234	19.50	0.13	0.120	(0.051)	0.031	0.089
235	19.58	0.10	0.090	(0.050)	0.023	0.067
236	19.67	0.10	0.090	(0.050)	0.023	0.067
237	19.75	0.10	0.090	(0.050)	0.023	0.067
238	19.83	0.07	0.060	(0.050)	0.016	0.044
239	19.92	0.07	0.060	(0.049)	0.016	0.044
240	20.00	0.07	0.060	(0.049)	0.016	0.044
241	20.08	0.10	0.090	(0.049)	0.023	0.067
242	20.17	0.10	0.090	(0.049)	0.023	0.067
243	20.25	0.10	0.090	(0.049)	0.023	0.067
244	20.33	0.10	0.090	(0.048)	0.023	0.067
245	20.42	0.10	0.090	(0.048)	0.023	0.067
246	20.50	0.10	0.090	(0.048)	0.023	0.067
247	20.58	0.10	0.090	(0.048)	0.023	0.067
248	20.67	0.10	0.090	(0.048)	0.023	0.067
249	20.75	0.10	0.090	(0.047)	0.023	0.067
250	20.83	0.07	0.060	(0.047)	0.016	0.044
251	20.92	0.07	0.060	(0.047)	0.016	0.044
252	21.00	0.07	0.060	(0.047)	0.016	0.044
253	21.08	0.10	0.090	(0.047)	0.023	0.067
254	21.17	0.10	0.090	(0.046)	0.023	0.067
255	21.25	0.10	0.090	(0.046)	0.023	0.067
256	21.33	0.07	0.060	(0.046)	0.016	0.044
257	21.42	0.07	0.060	(0.046)	0.016	0.044
258	21.50	0.07	0.060	(0.046)	0.016	0.044
259	21.58	0.10	0.090	(0.046)	0.023	0.067
260	21.67	0.10	0.090	(0.045)	0.023	0.067
261	21.75	0.10	0.090	(0.045)	0.023	0.067
262	21.83	0.07	0.060	(0.045)	0.016	0.044
263	21.92	0.07	0.060	(0.045)	0.016	0.044
264	22.00	0.07	0.060	(0.045)	0.016	0.044
265	22.08	0.10	0.090	(0.045)	0.023	0.067
266	22.17	0.10	0.090	(0.045)	0.023	0.067
267	22.25	0.10	0.090	(0.044)	0.023	0.067
268	22.33	0.07	0.060	(0.044)	0.016	0.044
269	22.42	0.07	0.060	(0.044)	0.016	0.044
270	22.50	0.07	0.060	(0.044)	0.016	0.044
271	22.58	0.07	0.060	(0.044)	0.016	0.044
272	22.67	0.07	0.060	(0.044)	0.016	0.044
273	22.75	0.07	0.060	(0.044)	0.016	0.044
274	22.83	0.07	0.060	(0.043)	0.016	0.044
275	22.92	0.07	0.060	(0.043)	0.016	0.044
276	23.00	0.07	0.060	(0.043)	0.016	0.044
277	23.08	0.07	0.060	(0.043)	0.016	0.044
278	23.17	0.07	0.060	(0.043)	0.016	0.044
279	23.25	0.07	0.060	(0.043)	0.016	0.044
280	23.33	0.07	0.060	(0.043)	0.016	0.044
281	23.42	0.07	0.060	(0.043)	0.016	0.044
282	23.50	0.07	0.060	(0.043)	0.016	0.044
283	23.58	0.07	0.060	(0.043)	0.016	0.044
284	23.67	0.07	0.060	(0.043)	0.016	0.044
285	23.75	0.07	0.060	(0.043)	0.016	0.044
286	23.83	0.07	0.060	(0.042)	0.016	0.044
287	23.92	0.07	0.060	(0.042)	0.016	0.044
288	24.00	0.07	0.060	(0.042)	0.016	0.044
		(Loss Rate Not Used)				
	Sum =	100.0			Sum =	75.3

Flood volume = Effective rainfall 6.27(In)

```
 times area       4.4(Ac.)/[(In)/(Ft.)] =       2.3(Ac.Ft)
Total soil loss =      1.23(In)
Total soil loss =     0.453(Ac.Ft)
Total rainfall =      7.50(In)
Flood volume =      100879.9 Cubic Feet
Total soil loss =       19725.8 Cubic Feet
------------------------------------------------------------------------
 Peak flow rate of this hydrograph =      4.231(CFS)
------------------------------------------------------------------------
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
                    24 - H O U R    S T O R M
                 R u n o f f      H y d r o g r a p h
------------------------------------------------------------------------
             Hydrograph in   5   Minute intervals ((CFS))

------------------------------------------------------------------------
Time(h+m) Volume Ac.Ft   Q(CFS)  0        2.5       5.0       7.5      10.0
------------------------------------------------------------------------
  0+ 5       0.0007      0.10  Q         |         |         |         |
  0+10       0.0020      0.18  Q         |         |         |         |
  0+15       0.0033      0.19  Q         |         |         |         |
  0+20       0.0050      0.25  Q         |         |         |         |
  0+25       0.0070      0.29  VQ        |         |         |         |
  0+30       0.0091      0.30  VQ        |         |         |         |
  0+35       0.0111      0.30  VQ        |         |         |         |
  0+40       0.0131      0.30  VQ        |         |         |         |
  0+45       0.0152      0.30  VQ        |         |         |         |
  0+50       0.0176      0.35  VQ        |         |         |         |
  0+55       0.0203      0.39  VQ        |         |         |         |
  1+ 0       0.0230      0.39  VQ        |         |         |         |
  1+ 5       0.0254      0.35  VQ        |         |         |         |
  1+10       0.0275      0.31  VQ        |         |         |         |
  1+15       0.0295      0.30  VQ        |         |         |         |
  1+20       0.0316      0.30  VQ        |         |         |         |
  1+25       0.0336      0.30  VQ        |         |         |         |
  1+30       0.0357      0.30  VQ        |         |         |         |
  1+35       0.0377      0.30  VQ        |         |         |         |
  1+40       0.0398      0.30  VQ        |         |         |         |
  1+45       0.0418      0.30  VQ        |         |         |         |
  1+50       0.0442      0.35  VQ        |         |         |         |
  1+55       0.0469      0.39  VQ        |         |         |         |
  2+ 0       0.0496      0.39  VQ        |         |         |         |
  2+ 5       0.0524      0.40  VQ        |         |         |         |
  2+10       0.0551      0.40  VQ        |         |         |         |
  2+15       0.0578      0.40  VQ        |         |         |         |
  2+20       0.0606      0.40  |Q        |         |         |         |
  2+25       0.0633      0.40  |Q        |         |         |         |
  2+30       0.0660      0.40  |Q        |         |         |         |
  2+35       0.0691      0.45  |Q        |         |         |         |
  2+40       0.0725      0.49  |Q        |         |         |         |
  2+45       0.0759      0.49  |Q        |         |         |         |
  2+50       0.0793      0.50  |Q        |         |         |         |
  2+55       0.0827      0.50  |Q        |         |         |         |
  3+ 0       0.0861      0.50  |Q        |         |         |         |
  3+ 5       0.0895      0.50  |Q        |         |         |         |
  3+10       0.0929      0.50  |Q        |         |         |         |
  3+15       0.0964      0.50  |Q        |         |         |         |
  3+20       0.0998      0.50  |Q        |         |         |         |
  3+25       0.1032      0.50  |Q        |         |         |         |
  3+30       0.1066      0.50  |Q        |         |         |         |
  3+35       0.1100      0.50  |Q        |         |         |         |
  3+40       0.1134      0.50  |Q        |         |         |         |
  3+45       0.1168      0.50  |QV       |         |         |         |
  3+50       0.1206      0.55  | Q       |         |         |         |
  3+55       0.1247      0.59  | Q       |         |         |         |
  4+ 0       0.1287      0.59  | Q       |         |         |         |
  4+ 5       0.1328      0.59  | Q       |         |         |         |
  4+10       0.1369      0.59  | Q       |         |         |         |
  4+15       0.1410      0.59  | Q       |         |         |         |
  4+20       0.1455      0.65  | Q       |         |         |         |
  4+25       0.1502      0.69  | Q       |         |         |         |
  4+30       0.1550      0.69  | Q       |         |         |         |
  4+35       0.1598      0.69  | Q       |         |         |         |
  4+40       0.1645      0.69  | Q       |         |         |         |
  4+45       0.1693      0.69  | Q       |         |         |         |
  4+50       0.1745      0.75  | QV      |         |         |         |
  4+55       0.1799      0.78  |  Q      |         |         |         |
  5+ 0       0.1853      0.79  |  Q      |         |         |         |
  5+ 5       0.1901      0.69  | QV      |         |         |         |
```

```
 5+10       0.1943      0.61  | QV      |         |         |         |
 5+15       0.1984      0.60  | QV      |         |         |         |
 5+20       0.2029      0.65  | QV      |         |         |         |
 5+25       0.2076      0.69  | QV      |         |         |         |
 5+30       0.2123      0.69  | QV      |         |         |         |
 5+35       0.2175      0.75  | QV      |         |         |         |
 5+40       0.2229      0.78  |  Q      |         |         |         |
 5+45       0.2283      0.79  |  Q      |         |         |         |
 5+50       0.2338      0.79  |  QV     |         |         |         |
 5+55       0.2393      0.79  |  QV     |         |         |         |
 6+ 0       0.2447      0.79  |  QV     |         |         |         |
 6+ 5       0.2505      0.84  |  QV     |         |         |         |
 6+10       0.2566      0.88  |  QV     |         |         |         |
 6+15       0.2628      0.89  |  QV     |         |         |         |
 6+20       0.2689      0.89  |  QV     |         |         |         |
 6+25       0.2751      0.89  |  QV     |         |         |         |
 6+30       0.2812      0.89  |  QV     |         |         |         |
 6+35       0.2877      0.94  |  QV     |         |         |         |
 6+40       0.2945      0.98  |  Q V    |         |         |         |
 6+45       0.3013      0.99  |  Q V    |         |         |         |
 6+50       0.3081      0.99  |  Q V    |         |         |         |
 6+55       0.3150      0.99  |  Q V    |         |         |         |
 7+ 0       0.3218      0.99  |  Q V    |         |         |         |
 7+ 5       0.3286      0.99  |  Q V    |         |         |         |
 7+10       0.3354      0.99  |  Q V    |         |         |         |
 7+15       0.3423      0.99  |  Q V    |         |         |         |
 7+20       0.3495      1.04  |   Q V   |         |         |         |
 7+25       0.3569      1.08  |   Q V   |         |         |         |
 7+30       0.3644      1.09  |   Q V   |         |         |         |
 7+35       0.3723      1.14  |   Q V   |         |         |         |
 7+40       0.3804      1.18  |   Q V   |         |         |         |
 7+45       0.3886      1.19  |   Q V   |         |         |         |
 7+50       0.3972      1.24  |   Q V   |         |         |         |
 7+55       0.4060      1.28  |    Q V  |         |         |         |
 8+ 0       0.4149      1.29  |    Q V  |         |         |         |
 8+ 5       0.4248      1.43  |    Q V  |         |         |         |
 8+10       0.4354      1.54  |     QV  |         |         |         |
 8+15       0.4461      1.56  |     QV  |         |         |         |
 8+20       0.4569      1.57  |     QV  |         |         |         |
 8+25       0.4677      1.57  |     Q V |         |         |         |
 8+30       0.4786      1.57  |     Q V |         |         |         |
 8+35       0.4899      1.64  |     Q V |         |         |         |
 8+40       0.5016      1.70  |     Q V |         |         |         |
 8+45       0.5134      1.71  |     Q V |         |         |         |
 8+50       0.5257      1.78  |      Q V|         |         |         |
 8+55       0.5384      1.84  |      Q V|         |         |         |
 9+ 0       0.5511      1.85  |      Q V|         |         |         |
 9+ 5       0.5648      1.99  |      Q V|         |         |         |
 9+10       0.5793      2.10  |       Q V         |         |         |
 9+15       0.5939      2.12  |       Q V         |         |         |
 9+20       0.6091      2.20  |       Q V         |         |         |
 9+25       0.6246      2.25  |        QV         |         |         |
 9+30       0.6402      2.26  |        Q|V        |         |         |
 9+35       0.6563      2.34  |        Q|V        |         |         |
 9+40       0.6728      2.39  |        Q|V        |         |         |
 9+45       0.6893      2.40  |        Q|V        |         |         |
 9+50       0.7064      2.48  |        Q| V       |         |         |
 9+55       0.7239      2.53  |         Q V       |         |         |
10+ 0       0.7414      2.54  |         Q V       |         |         |
10+ 5       0.7556      2.06  |       Q |  V      |         |         |
10+10       0.7672      1.69  |     Q   |  V      |         |         |
10+15       0.7785      1.63  |     Q   |  V      |         |         |
10+20       0.7896      1.62  |     Q   |  V      |         |         |
10+25       0.8007      1.62  |     Q   |  V      |         |         |
10+30       0.8119      1.62  |     Q   |   V     |         |         |
10+35       0.8255      1.97  |      Q  |   V     |         |         |
10+40       0.8409      2.24  |       Q |   V     |         |         |
10+45       0.8566      2.28  |        Q|   V     |         |         |
10+50       0.8724      2.30  |        Q|    V    |         |         |
10+55       0.8883      2.30  |        Q|    V    |         |         |
11+ 0       0.9041      2.30  |        Q|    V    |         |         |
11+ 5       0.9195      2.23  |       Q |    V    |         |         |
11+10       0.9346      2.18  |       Q |     V   |         |         |
11+15       0.9495      2.18  |       Q |     V   |         |         |
11+20       0.9645      2.18  |       Q |     V   |         |         |
11+25       0.9795      2.18  |       Q |     V   |         |         |
11+30       0.9945      2.18  |       Q |      V  |         |         |
11+35       1.0086      2.04  |       Q |      V  |         |         |
11+40       1.0219      1.94  |      Q  |      V  |         |         |
```



11+45	1.0351	1.92	Q	V			
11+50	1.0488	1.99	Q	V			
11+55	1.0629	2.04	Q	V			
12+ 0	1.0770	2.05	Q	V			
12+ 5	1.0946	2.54	Q	V			
12+10	1.1147	2.92	Q	V			
12+15	1.1352	2.98	Q	V			
12+20	1.1563	3.07	Q	V			
12+25	1.1779	3.13	Q	V			
12+30	1.1995	3.14	Q	V			
12+35	1.2220	3.28	Q	V			
12+40	1.2454	3.39	Q	V			
12+45	1.2688	3.41	Q	V			
12+50	1.2928	3.48	Q	V			
12+55	1.3172	3.54	Q	V			
13+ 0	1.3416	3.55	Q	V			
13+ 5	1.3685	3.90	Q	V			
13+10	1.3972	4.17	Q	V			
13+15	1.4262	4.21	Q	V			
13+20	1.4553	4.23	Q	V			
13+25	1.4844	4.23	Q	V			
13+30	1.5136	4.23	Q	V			
13+35	1.5374	3.47	Q	V			
13+40	1.5573	2.88	Q	V			
13+45	1.5765	2.79	Q	V			
13+50	1.5955	2.76	Q	V			
13+55	1.6146	2.76	Q	V			
14+ 0	1.6336	2.77	Q	V			
14+ 5	1.6546	3.05	Q	V			
14+10	1.6771	3.26	Q	V			
14+15	1.6998	3.30	Q	V			
14+20	1.7221	3.24	Q	V			
14+25	1.7440	3.19	Q	V			
14+30	1.7659	3.18	Q	V			
14+35	1.7878	3.18	Q	V			
14+40	1.8098	3.18	Q	V			
14+45	1.8317	3.18	Q	V			
14+50	1.8531	3.11	Q	V			
14+55	1.8742	3.06	Q	V			
15+ 0	1.8953	3.06	Q	V			
15+ 5	1.9158	2.99	Q	V			
15+10	1.9360	2.93	Q	V			
15+15	1.9562	2.93	Q	V			
15+20	1.9758	2.86	Q	V			
15+25	1.9952	2.80	Q	V			
15+30	2.0144	2.80	Q	V			
15+35	2.0318	2.52	Q	V			
15+40	2.0476	2.31	Q	V			
15+45	2.0633	2.27	Q	V			
15+50	2.0789	2.26	Q	V			
15+55	2.0945	2.27	Q	V			
16+ 0	2.1101	2.27	Q	V			
16+ 5	2.1190	1.30	Q	V			
16+10	2.1228	0.56	Q	V			
16+15	2.1258	0.43	Q	V			
16+20	2.1285	0.40	Q	V			
16+25	2.1313	0.40	Q	V			
16+30	2.1340	0.40	Q	V			
16+35	2.1364	0.35	Q	V			
16+40	2.1385	0.31	Q	V			
16+45	2.1405	0.30	Q	V			
16+50	2.1426	0.30	Q	V			
16+55	2.1446	0.30	Q	V			
17+ 0	2.1467	0.30	Q	V			
17+ 5	2.1494	0.40	Q	V			
17+10	2.1527	0.48	Q	V			
17+15	2.1561	0.49	Q	V			
17+20	2.1595	0.50	Q	V			
17+25	2.1630	0.50	Q	V			
17+30	2.1664	0.50	Q	V			
17+35	2.1698	0.50	Q	V			
17+40	2.1732	0.50	Q	V			
17+45	2.1766	0.50	Q	V			
17+50	2.1797	0.44	Q	V			
17+55	2.1825	0.41	Q	V			
18+ 0	2.1852	0.40	Q	V			
18+ 5	2.1879	0.40	Q	V			
18+10	2.1907	0.40	Q	V			
18+15	2.1934	0.40	Q	V			

```
  18+20       2.1961      0.40  |Q        |         |         |      V  |
  18+25       2.1989      0.40  |Q        |         |         |      V  |
  18+30       2.2016      0.40  |Q        |         |         |       V |
  18+35       2.2040      0.35  |Q        |         |         |       V |
  18+40       2.2061      0.31  |Q        |         |         |       V |
  18+45       2.2082      0.30  |Q        |         |         |       V |
  18+50       2.2098      0.25  Q         |         |         |       V |
  18+55       2.2113      0.21  Q         |         |         |       V |
  19+ 0       2.2126      0.20  Q         |         |         |       V |
  19+ 5       2.2144      0.25  Q         |         |         |       V |
  19+10       2.2164      0.29  |Q        |         |         |       V |
  19+15       2.2184      0.30  |Q        |         |         |       V |
  19+20       2.2208      0.35  |Q        |         |         |       V |
  19+25       2.2235      0.39  |Q        |         |         |       V |
  19+30       2.2262      0.39  |Q        |         |         |       V |
  19+35       2.2286      0.35  |Q        |         |         |       V |
  19+40       2.2307      0.31  |Q        |         |         |       V |
  19+45       2.2327      0.30  |Q        |         |         |       V |
  19+50       2.2344      0.25  Q         |         |         |       V |
  19+55       2.2359      0.21  Q         |         |         |       V |
  20+ 0       2.2372      0.20  Q         |         |         |       V |
  20+ 5       2.2390      0.25  Q         |         |         |       V |
  20+10       2.2409      0.29  |Q        |         |         |       V |
  20+15       2.2430      0.30  |Q        |         |         |       V |
  20+20       2.2450      0.30  |Q        |         |         |       V |
  20+25       2.2471      0.30  |Q        |         |         |       V |
  20+30       2.2491      0.30  |Q        |         |         |       V |
  20+35       2.2512      0.30  |Q        |         |         |       V |
  20+40       2.2532      0.30  |Q        |         |         |       V |
  20+45       2.2553      0.30  |Q        |         |         |       V |
  20+50       2.2570      0.25  Q         |         |         |       V |
  20+55       2.2584      0.21  Q         |         |         |        V|
  21+ 0       2.2598      0.20  Q         |         |         |        V|
  21+ 5       2.2615      0.25  Q         |         |         |        V|
  21+10       2.2635      0.29  |Q        |         |         |        V|
  21+15       2.2655      0.30  |Q        |         |         |        V|
  21+20       2.2672      0.25  Q         |         |         |        V|
  21+25       2.2686      0.21  Q         |         |         |        V|
  21+30       2.2700      0.20  Q         |         |         |        V|
  21+35       2.2717      0.25  Q         |         |         |        V|
  21+40       2.2737      0.29  |Q        |         |         |        V|
  21+45       2.2758      0.30  |Q        |         |         |        V|
  21+50       2.2775      0.25  Q         |         |         |        V|
  21+55       2.2789      0.21  Q         |         |         |        V|
  22+ 0       2.2803      0.20  Q         |         |         |        V|
  22+ 5       2.2820      0.25  Q         |         |         |        V|
  22+10       2.2840      0.29  |Q        |         |         |        V|
  22+15       2.2860      0.30  |Q        |         |         |        V|
  22+20       2.2877      0.25  Q         |         |         |        V|
  22+25       2.2891      0.21  Q         |         |         |        V|
  22+30       2.2905      0.20  Q         |         |         |        V|
  22+35       2.2919      0.20  Q         |         |         |        V|
  22+40       2.2932      0.20  Q         |         |         |        V|
  22+45       2.2946      0.20  Q         |         |         |        V|
  22+50       2.2960      0.20  Q         |         |         |        V|
  22+55       2.2973      0.20  Q         |         |         |        V|
  23+ 0       2.2987      0.20  Q         |         |         |        V|
  23+ 5       2.3001      0.20  Q         |         |         |        V|
  23+10       2.3014      0.20  Q         |         |         |        V|
  23+15       2.3028      0.20  Q         |         |         |        V|
  23+20       2.3042      0.20  Q         |         |         |        V|
  23+25       2.3055      0.20  Q         |         |         |        V|
  23+30       2.3069      0.20  Q         |         |         |        V|
  23+35       2.3083      0.20  Q         |         |         |        V|
  23+40       2.3096      0.20  Q         |         |         |        V|
  23+45       2.3110      0.20  Q         |         |         |        V|
  23+50       2.3124      0.20  Q         |         |         |        V|
  23+55       2.3137      0.20  Q         |         |         |        V|
  24+ 0       2.3151      0.20  Q         |         |         |        V|
  24+ 5       2.3157      0.10  Q         |         |         |        V|
  24+10       2.3159      0.02  Q         |         |         |        V|
  24+15       2.3159      0.00  Q         |         |         |        V|
-------------------------------------------------------------------------
```

BASIN ROUTING

PROJECT NAME: WILDOMAR TRAIL PROJECT
PROJECT LOCATION: CLINTON KEITH RAOD AND WILDOMAR TRAIL
BASIN ROUTING CALCULATION

Storm Period, Years:	100
Storm Period, Hrs:	1
Peak Inflow Rate (cfs):	15.05
Peak Outflow (cfs):	5.79
Peak Storage (cubic ft):	11,204

BASIN A

Unit Time Period (5 min.)	Inflow (cfs) *(Note 1)*	Volume (cubic ft)	Elevation (ft)	Outflow (cfs)	Storage (cubic ft)	
1	1.780	534.0	0.100	1.007	231.817	
2	2.990	897.0	0.100	1.007	826.633	
3	3.610	1,083.0	0.200	1.425	1482.282	
4	3.870	1,161.0	0.300	1.745	2119.885	
5	4.040	1,212.0	0.500	2.252	2656.183	
6	4.440	1,332.0	0.700	2.665	3188.681	
7	5.310	1,593.0	0.800	2.849	3926.978	
8	6.290	1,887.0	1.100	3.341	4811.749	
9	8.330	2,499.0	1.300	3.632	6221.212	
10	15.054	4,516.2	1.800	4.274	9455.357	
11	11.160	3,348.0	2.800	5.330	11204.353	
12	5.380	1,614.0	3.300	5.786	11204.353	
		21,676			**11,204**	**MAX. STORAGE VOLUME**

Notes:
1. Inflow per unit hydrograph calulations.

PROJECT NAME: WILDOMAR TRAIL PROJECT
PROJECT LOCATION: CLINTON KEITH RAOD AND WILDOMAR TRAIL
BASIN ROUTING CALCULATION

Storm Period, Years:	100
Storm Period, Hrs:	3
Peak Inflow Rate (cfs):	10.30
Peak Outflow (cfs):	5.70
Peak Storage (cubic ft):	10,774

BASIN A

Unit Time Period (5 min.)	Inflow (cfs)	Volume (cubic ft)	Elevation (ft)	Outflow (cfs)	Storage (cubic ft)	
1	0.850	255.0	0.100	1.007	0.000	
2	1.420	426.0	0.100	1.007	123.817	
3	1.360	408.0	0.100	1.007	229.633	
4	1.560	468.0	0.100	1.007	395.450	
5	1.750	525.0	0.100	1.007	618.267	
6	2.010	603.0	0.100	1.007	919.084	
7	1.930	579.0	0.100	1.007	1195.900	
8	2.040	612.0	0.200	1.425	1380.549	
9	2.160	648.0	0.300	1.745	1505.152	
10	1.960	588.0	0.300	1.745	1569.755	
11	1.880	564.0	0.300	1.745	1610.358	
12	2.060	618.0	0.300	1.745	1704.962	
13	2.480	744.0	0.400	2.015	1844.595	
14	2.700	810.0	0.400	2.015	2050.228	
15	2.730	819.0	0.500	2.252	2193.526	
16	2.580	774.0	0.500	2.252	2291.824	
17	2.940	882.0	0.600	2.467	2433.629	
18	3.300	990.0	0.600	2.467	2683.434	
19	3.170	951.0	0.700	2.665	2834.932	
20	3.260	978.0	0.700	2.665	3013.431	
21	3.850	1,155.0	0.800	2.849	3313.727	
22	4.020	1,206.0	0.900	3.022	3613.177	
23	3.820	1,146.0	1.000	3.185	3803.590	
24	3.780	1,134.0	1.000	3.185	3982.003	
25	3.890	1,167.0	1.100	3.341	4146.774	
26	4.790	1,437.0	1.100	3.341	4581.546	
27	5.970	1,791.0	1.300	3.632	5283.008	
28	5.310	1,593.0	1.500	3.901	5705.657	
29	7.160	2,148.0	1.600	4.029	6644.924	
30	9.080	2,724.0	1.900	4.391	8051.738	
31	10.300	3,090.0	2.300	4.831	9692.518	
32	9.030	2,709.0	2.900	5.424	10774.211	
33	4.950	1,485.0	3.200	5.698	10549.805	
34	2.640	792.0	3.100	5.608	9659.319	
35	2.210	663.0	2.800	5.330	8723.316	
36	1.330	399.0	2.500	5.036	7611.399	
		37,881			**10,774**	**MAX. STORAGE VOLUME**

Notes:
1. Inflow per unit hydrograph calulations.

PROJECT NAME: WILDOMAR TRAIL PROJECT

PROJECT LOCATION: CLINTON KEITH RAOD AND WILDOMAR TRAIL

BASIN ROUTING CALCULATION

Storm Period, Years:	100
Storm Period, Hrs:	6
Peak Inflow Rate (cfs):	1.65
Peak Outflow (cfs):	5.61
Peak Storage (cubic ft):	1,209

BASIN A

Unit Time Period (5 min.)	Inflow (cfs)	Volume (cubic ft)	Elevation (ft)	Outflow (cfs)	Storage (cubic ft)
1	0.440	132.0	0.100	1.007	0.000
2	0.830	249.0	0.100	1.007	0.000
3	0.930	279.0	0.100	1.007	0.000
4	0.940	282.0	0.100	1.007	0.000
5	0.940	282.0	0.100	1.007	0.000
6	1.030	309.0	0.100	1.007	6.817
7	1.090	327.0	0.100	1.007	31.633
8	1.100	330.0	0.100	1.007	59.450
9	1.100	330.0	0.100	1.007	87.267
10	1.100	330.0	0.100	1.007	115.084
11	1.100	330.0	0.100	1.007	142.900
12	1.200	360.0	0.100	1.007	200.717
13	1.270	381.0	0.100	1.007	279.534
14	1.280	384.0	0.100	1.007	361.351
15	1.280	384.0	0.100	1.007	443.167
16	1.280	384.0	0.100	1.007	524.984
17	1.280	384.0	0.100	1.007	606.801
18	1.280	384.0	0.100	1.007	688.617
19	1.280	384.0	0.100	1.007	770.434
20	1.280	384.0	0.100	1.007	852.251
21	1.280	384.0	0.100	1.007	934.068
22	1.280	384.0	0.100	1.007	1015.884
23	1.280	384.0	0.200	1.425	1015.884
24	1.280	384.0	0.200	1.425	1015.884
25	1.280	384.0	0.200	1.425	1015.884
26	1.390	417.0	0.200	1.425	1015.884
27	1.350	405.0	0.200	1.425	1015.884
28	1.400	420.0	0.200	1.425	1015.884
29	1.460	438.0	0.200	1.425	1026.533
30	1.470	441.0	0.200	1.425	1040.181
31	1.470	441.0	0.200	1.425	1053.829
32	1.470	441.0	0.200	1.425	1067.478
33	1.470	441.0	0.200	1.425	1081.126

34	1.470	441.0	0.200	1.425	1094.774	
35	1.580	474.0	0.200	1.425	1141.423	
36	1.650	495.0	0.200	1.425	1209.071	
37	1.660	498.0	0.200	1.425	1279.719	
38	1.660	498.0	0.200	1.425	1350.368	
39	1.660	498.0	0.300	1.745	1350.368	
40	1.770	531.0	0.300	1.745	1357.971	
41	1.840	552.0	0.300	1.745	1386.574	
42	1.850	555.0	0.300	1.745	1418.177	
43	1.960	588.0	0.300	1.745	1482.780	
44	2.140	642.0	0.300	1.745	1601.384	
45	2.330	699.0	0.300	1.745	1776.987	
46	2.420	726.0	0.400	2.015	1898.620	
47	2.540	762.0	0.400	2.015	2056.254	
48	2.610	783.0	0.500	2.252	2163.551	
49	2.730	819.0	0.500	2.252	2306.849	
50	2.800	840.0	0.600	2.467	2406.654	
51	2.920	876.0	0.600	2.467	2542.459	
52	3.100	930.0	0.600	2.467	2732.265	
53	3.290	987.0	0.700	2.665	2919.763	
54	3.480	1,044.0	0.700	2.665	3164.261	
55	3.670	1,101.0	0.800	2.849	3410.558	
56	3.760	1,128.0	0.900	3.022	3632.008	
57	3.880	1,164.0	1.000	3.185	3840.420	
58	4.060	1,218.0	1.000	3.185	4102.833	
59	4.250	1,275.0	1.100	3.341	4375.605	
60	4.330	1,299.0	1.200	3.489	4627.811	
61	4.450	1,335.0	1.300	3.632	4873.274	
62	4.630	1,389.0	1.400	3.769	5131.607	
63	5.260	1,578.0	1.400	3.769	5578.941	
64	6.170	1,851.0	1.600	4.029	6221.208	
65	6.910	2,073.0	1.800	4.274	7012.153	
66	7.510	2,253.0	2.000	4.505	7913.748	
67	8.300	2,490.0	2.300	4.831	8954.528	
68	9.670	2,901.0	2.600	5.136	10314.690	
69	6.360	1,908.0	3.000	5.517	10567.564	**MAX. STOR**
70	2.740	822.0	3.100	5.608	10481.515	
71	1.290	387.0	3.100	5.608	10351.967	
72	0.890	267.0	3.100	5.608	10210.418	
		52,650.0			**10567.6**	**MAX. STOR**

Notes:

1. Inflow per unit hydrograph calulations.

PROJECT NAME: WILDOMAR TRAIL PROJECT

PROJECT LOCATION: CLINTON KEITH RAOD AND WILDOMAR TRAIL

BASIN ROUTING CALCULATION

Storm Period, Years:	100
Storm Period, Hrs:	24
Peak Inflow Rate (cfs):	0.55
Peak Outflow (cfs):	3.90
Peak Storage (cubic ft):	0

BASIN A

Unit Time Period (5 min.)	Inflow (cfs)	Volume (cubic ft)	Elevation (ft)	Outflow (cfs)	Storage (cubic ft)
1	0.120	36.0	0.100	1.007	-
2	0.200	60.0	0.100	1.007	-
3	0.220	66.0	0.100	1.007	-
4	0.280	84.0	0.100	1.007	-
5	0.320	96.0	0.100	1.007	-
6	0.330	99.0	0.100	1.007	-
7	0.330	99.0	0.100	1.007	-
8	0.330	99.0	0.100	1.007	-
9	0.330	99.0	0.100	1.007	-
10	0.390	117.0	0.100	1.007	-
11	0.430	129.0	0.100	1.007	-
12	0.440	132.0	0.100	1.007	-
13	0.370	111.0	0.100	1.007	-
14	0.330	99.0	0.100	1.007	-
15	0.330	99.0	0.100	1.007	-
16	0.330	99.0	0.100	1.007	-
17	0.330	99.0	0.100	1.007	-
18	0.330	99.0	0.100	1.007	-
19	0.330	99.0	0.100	1.007	-
20	0.330	99.0	0.100	1.007	-
21	0.390	117.0	0.100	1.007	-
22	0.430	129.0	0.100	1.007	-
23	0.440	132.0	0.100	1.007	-
24	0.440	132.0	0.100	1.007	-
25	0.440	132.0	0.100	1.007	-
26	0.440	132.0	0.100	1.007	-
27	0.440	132.0	0.100	1.007	-
28	0.440	132.0	0.100	1.007	-
29	0.440	132.0	0.100	1.007	-
30	0.500	150.0	0.100	1.007	-
31	0.540	162.0	0.100	1.007	-
32	0.550	165.0	0.100	1.007	-
33	0.550	165.0	0.100	1.007	-

34	0.550	165.0	0.100	1.007	-
35	0.550	165.0	0.100	1.007	-
36	0.550	165.0	0.100	1.007	-
37	0.550	165.0	0.100	1.007	-
38	0.550	165.0	0.100	1.007	-
39	0.550	165.0	0.100	1.007	-
40	0.550	165.0	0.100	1.007	-
41	0.550	165.0	0.100	1.007	-
42	0.550	165.0	0.100	1.007	-
43	0.550	165.0	0.100	1.007	-
44	0.550	165.0	0.100	1.007	-
45	0.610	183.0	0.100	1.007	-
46	0.565	169.5	0.100	1.007	-
47	0.650	195.0	0.100	1.007	-
48	0.650	195.0	0.100	1.007	-
49	0.650	195.0	0.100	1.007	-
50	0.650	195.0	0.100	1.007	-
51	0.720	216.0	0.100	1.007	-
52	0.760	228.0	0.100	1.007	-
53	0.760	228.0	0.100	1.007	-
54	0.760	228.0	0.100	1.007	-
55	0.760	228.0	0.100	1.007	-
56	0.760	228.0	0.100	1.007	-
57	0.760	228.0	0.100	1.007	-
58	0.830	249.0	0.100	1.007	-
59	0.870	261.0	0.100	1.007	-
60	0.897	269.1	0.100	1.007	-
61	0.750	225.0	0.100	1.007	-
62	0.670	201.0	0.100	1.007	-
63	0.650	195.0	0.100	1.007	-
64	0.720	216.0	0.100	1.007	-
65	0.760	228.0	0.100	1.007	-
66	0.760	228.0	0.100	1.007	-
67	0.830	249.0	0.100	1.007	-
68	0.870	261.0	0.100	1.007	-
69	0.870	261.0	0.100	1.007	-
70	0.870	261.0	0.100	1.007	-
71	0.870	261.0	0.100	1.007	-
72	0.930	279.0	0.100	1.007	-
73	0.980	294.0	0.100	1.007	-
74	0.980	294.0	0.100	1.007	-
75	0.980	294.0	0.100	1.007	-
76	0.980	294.0	0.100	1.007	-
77	0.980	294.0	0.100	1.007	-
78	1.040	312.0	0.100	1.007	9.817
79	1.080	324.0	0.100	1.007	31.633
80	1.090	327.0	0.100	1.007	56.450

81	1.090	327.0	0.100	1.007	81.267
82	1.090	327.0	0.100	1.007	106.084
83	1.090	327.0	0.100	1.007	130.900
84	1.090	327.0	0.100	1.007	155.717
85	1.090	327.0	0.100	1.007	180.534
86	1.090	327.0	0.100	1.007	205.351
87	1.150	345.0	0.100	1.007	248.167
88	1.190	357.0	0.100	1.007	302.984
89	1.200	360.0	0.100	1.007	360.801
90	1.260	378.0	0.100	1.007	436.617
91	1.300	390.0	0.100	1.007	524.434
92	1.310	393.0	0.100	1.007	615.251
93	1.380	414.0	0.100	1.007	727.068
94	1.420	426.0	0.100	1.007	850.884
95	1.430	429.0	0.100	1.007	977.701
96	1.580	474.0	0.100	1.007	1149.518
97	1.680	504.0	0.200	1.425	1226.166
98	1.700	510.0	0.200	1.425	1308.814
99	1.700	510.0	0.200	1.425	1391.463
100	1.700	510.0	0.300	1.745	1391.463
101	1.700	510.0	0.300	1.745	1391.463
102	1.780	534.0	0.300	1.745	1402.066
103	1.830	549.0	0.300	1.745	1427.669
104	1.840	552.0	0.300	1.745	1456.272
105	1.920	576.0	0.300	1.745	1508.876
106	1.970	591.0	0.300	1.745	1576.479
107	1.980	594.0	0.300	1.745	1647.082
108	2.130	639.0	0.400	2.015	1681.716
109	2.230	669.0	0.400	2.015	1746.349
110	2.250	675.0	0.400	2.015	1816.982
111	2.320	696.0	0.400	2.015	1908.616
112	2.370	711.0	0.400	2.015	2015.249
113	2.380	714.0	0.500	2.252	2053.547
114	2.460	738.0	0.500	2.252	2115.845
115	2.510	753.0	0.500	2.252	2193.142
116	2.520	756.0	0.500	2.252	2273.440
117	2.600	780.0	0.500	2.252	2377.738
118	2.650	795.0	0.600	2.467	2432.543
119	2.660	798.0	0.600	2.467	2490.348
120	2.130	639.0	0.600	2.467	2490.348
121	1.790	537.0	0.600	2.467	2490.348
122	1.730	519.0	0.600	2.467	2490.348
123	1.730	519.0	0.600	2.467	2490.348
124	1.730	519.0	0.600	2.467	2490.348
125	1.730	519.0	0.600	2.467	2490.348
126	2.110	633.0	0.600	2.467	2490.348
127	2.360	708.0	0.600	2.467	2490.348

128	2.400	720.0	0.600	2.467	2490.348	
129	2.400	720.0	0.600	2.467	2490.348	
130	2.410	723.0	0.600	2.467	2490.348	
131	2.410	723.0	0.600	2.467	2490.348	
132	2.330	699.0	0.600	2.467	2490.348	
133	2.280	684.0	0.600	2.467	2490.348	
134	2.280	684.0	0.600	2.467	2490.348	
135	2.280	684.0	0.600	2.467	2490.348	
136	2.280	684.0	0.600	2.467	2490.348	
137	2.280	684.0	0.600	2.467	2490.348	
138	2.130	639.0	0.600	2.467	2490.348	
139	2.030	609.0	0.600	2.467	2490.348	
140	2.020	606.0	0.600	2.467	2490.348	
141	2.100	630.0	0.600	2.467	2490.348	
142	2.150	645.0	0.600	2.467	2490.348	
143	2.160	648.0	0.600	2.467	2490.348	
144	2.680	804.0	0.600	2.467	2554.153	
145	3.030	909.0	0.600	2.467	2722.958	
146	3.090	927.0	0.700	2.665	2850.457	
147	3.170	951.0	0.700	2.665	3001.955	
148	3.220	966.0	0.800	2.849	3113.251	
149	3.230	969.0	0.800	2.849	3227.548	
150	3.380	1,014.0	0.800	2.849	3386.845	
151	3.480	1,044.0	0.900	3.022	3524.295	
152	3.500	1,050.0	0.900	3.022	3667.745	
153	3.570	1,071.0	1.000	3.185	3783.158	
154	3.620	1,086.0	1.000	3.185	3913.570	
155	3.630	1,089.0	1.100	3.341	4000.342	
156	4.010	1,203.0	1.100	3.341	4201.113	
157	4.260	1,278.0	1.100	3.341	4476.885	
158	4.300	1,290.0	1.200	3.489	4720.091	
159	4.300	1,290.0	1.300	3.632	4920.554	
160	4.300	1,290.0	1.400	3.769	5079.888	
161	4.310	1,293.0	1.400	3.769	5242.221	**MAX. STOR**
162	3.480	1,044.0	1.500	3.901	5115.871	
163	2.940	882.0	1.400	3.769	4867.204	
164	2.850	855.0	1.400	3.769	4591.538	
165	2.850	855.0	1.300	3.632	4357.001	
166	2.850	855.0	1.200	3.489	4165.207	
167	3.150	945.0	1.100	3.341	4107.979	
168	3.350	1,005.0	1.100	3.341	2.771	
169	3.380	1,014.0	0.200	1.425	586.648	
170	3.130	939.0	0.100	1.007	636.817	
171	3.050	915.0	0.100	1.007	612.817	
172	3.000	900.0	0.100	1.007	597.817	
173	3.000	900.0	0.100	1.007	597.817	
174	2.920	876.0	0.100	1.007	573.817	

175	2.870	861.0	0.100	1.007	558.817
176	2.870	861.0	0.100	1.007	558.817
177	2.570	771.0	0.100	1.007	468.817
178	2.370	711.0	0.100	1.007	408.817
179	2.340	702.0	0.100	1.007	399.817
180	2.340	702.0	0.100	1.007	399.817
181	2.340	702.0	0.100	1.007	399.817
182	1.260	378.0	0.100	1.007	75.817
183	0.560	168.0	0.100	1.007	-
184	0.440	132.0	0.100	1.007	-
185	0.440	132.0	0.100	1.007	-
186	0.440	132.0	0.100	1.007	-
187	0.440	132.0	0.100	1.007	-
188	0.370	111.0	0.100	1.007	-
189	0.330	99.0	0.100	1.007	-
190	0.330	99.0	0.100	1.007	-
191	0.330	99.0	0.100	1.007	-
192	0.330	99.0	0.100	1.007	-
193	0.330	99.0	0.100	1.007	-
194	0.450	135.0	0.100	1.007	-
195	0.530	159.0	0.100	1.007	-
196	0.550	165.0	0.100	1.007	-
197	0.550	165.0	0.100	1.007	-
198	0.550	165.0	0.100	1.007	-
199	0.550	165.0	0.100	1.007	-
200	0.550	165.0	0.100	1.007	-
201	0.550	165.0	0.100	1.007	-
202	0.550	165.0	0.100	1.007	-
203	0.480	144.0	0.100	1.007	-
204	0.440	132.0	0.100	1.007	-
205	0.440	132.0	0.100	1.007	-
206	0.440	132.0	0.100	1.007	-
207	0.440	132.0	0.100	1.007	-
208	0.440	132.0	0.100	1.007	-
209	0.440	132.0	0.100	1.007	-
210	0.440	132.0	0.100	1.007	-
211	0.440	132.0	0.100	1.007	-
212	0.440	132.0	0.100	1.007	-
213	0.370	111.0	0.100	1.007	-
214	0.330	99.0	0.100	1.007	-
215	0.330	99.0	0.100	1.007	-
216	0.270	81.0	0.100	1.007	-
217	0.230	69.0	0.100	1.007	-
218	0.220	66.0	0.100	1.007	-
219	0.280	84.0	0.100	1.007	-
220	0.320	96.0	0.100	1.007	-
221	0.330	99.0	0.100	1.007	-

222	0.390	117.0	0.100	1.007	-	
223	0.423	126.9	0.100	1.007	-	
224	0.440	132.0	0.100	1.007	-	
225	0.370	111.0	0.100	1.007	-	
226	0.330	99.0	0.100	1.007	-	
227	0.330	99.0	0.100	1.007	-	
228	0.270	81.0	0.100	1.007	-	
229	0.230	69.0	0.100	1.007	-	
230	0.220	66.0	0.100	1.007	-	
231	0.280	84.0	0.100	1.007	-	
232	0.320	96.0	0.100	1.007	-	
233	0.330	99.0	0.100	1.007	-	
234	0.330	99.0	0.100	1.007	-	
235	0.330	99.0	0.100	1.007	-	
236	0.330	99.0	0.100	1.007	-	
237	0.330	99.0	0.100	1.007	-	
238	0.330	99.0	0.100	1.007	-	
239	0.330	99.0	0.100	1.007	-	
240	0.330	99.0	0.100	1.007	-	
		94,265			**5,242**	**MAX. STOR**

Notes:

1. Inflow per unit hydrograph calulations.

PROJECT NAME: WILDOMAR TRAIL PROJECT

PROJECT LOCATION: CLINTON KEITH RAOD AND WILDOMAR TRAIL

BASIN STORAGE and Outlet RESULTS

BASIN A

Basin Type:	ECO-RAIN
Bottom Elevation (ft):	0
Top Elevation (ft):	5.71
Freeboard (ft):	N/A
Max. Storage (cubic ft)	19,030

Outlet Type:	Orifice
Number of Orifice:	1
Discharge Coefficient:	0.66
Size of Orifice (inch):	10.5

Stage (ft)	Storage (cubic ft)
0.00	0
0.10	996
0.20	1,318
0.30	1,640
0.40	1,962
0.50	2,284
0.60	2,606
0.70	2,928
0.80	3,250
0.90	3,572
1.00	3,894
1.10	4,216
1.20	4,538
1.30	4,861
1.40	5,183
1.50	5,505
1.60	5,827
1.70	6,149
1.80	6,471
1.90	6,793
2.00	7,115
2.10	7,437
2.20	7,759
2.30	8,081
2.40	8,403
2.50	8,725
2.60	9,047
2.70	9,369
2.80	9,691
2.90	10,013
3.00	10,335
3.10	10,657
3.20	10,979
3.30	11,301
3.40	11,623
3.50	11,945
3.60	12,267
3.70	12,589
3.80	12,912
3.90	13,234
4.00	13,556
4.10	13,878
4.20	14,200

Head (ft)	Flow Rate (CFS)
0.00	0.00
0.10	1.01
0.20	1.42
0.30	1.74
0.40	2.01
0.50	2.25
0.60	2.47
0.70	2.67
0.80	2.85
0.90	3.02
1.00	3.19
1.10	3.34
1.20	3.49
1.30	3.63
1.40	3.77
1.50	3.90
1.60	4.03
1.70	4.15
1.80	4.27
1.90	4.39
2.00	4.50
2.10	4.62
2.20	4.72
2.30	4.83
2.40	4.93
2.50	5.04
2.60	5.14
2.70	5.23
2.80	5.33
2.90	5.42
3.00	5.52
3.10	5.61
3.20	5.70
3.30	5.79
3.40	5.87
3.50	5.96
3.60	6.04
3.70	6.13
3.80	6.21
3.90	6.29
4.00	6.37
4.10	6.45
4.20	6.53
4.30	6.61

4.30	14,522
4.40	14,844
4.50	15,166
4.60	15,488
4.70	15,810
4.80	16,132
4.90	16,454
5.00	16,776
5.10	17,098
5.20	17,420
5.30	17,742
5.40	18,064
5.50	18,386
5.60	18,708
5.70	19,030

4.40	6.68
4.50	6.76
4.60	6.83
4.70	6.91
4.80	6.98
4.90	7.05
5.00	7.12
5.10	7.19
5.20	7.26
5.30	7.33
5.40	7.40
5.50	7.47
5.60	7.54
5.70	7.60

PROJECT NAME: WILDOMAR TRAIL PROJECT

PROJECT LOCATION: CLINTON KEITH RAOD AND WILDOMAR TRAIL

BASIN ROUTING CALCULATION

Storm Period, Years:	100
Storm Period, Hrs:	1
Peak Inflow Rate (cfs):	14.48
Peak Outflow (cfs):	5.61
Peak Storage (cubic ft):	11,340

BASIN B

Unit Time Period (5 min.)	Inflow (cfs) *(Note 1)*	Volume (cubic ft)	Elevation (ft)	Outflow (cfs)	Storage (cubic ft)	
1	1.580	474.0	0.100	1.007	171.817	
2	2.820	846.0	0.100	1.007	715.633	
3	3.420	1,026.0	0.100	1.007	1439.450	
4	3.760	1,128.0	0.200	1.425	2140.099	
5	3.930	1,179.0	0.400	2.015	2714.732	
6	4.310	1,293.0	0.600	2.467	3267.537	
7	5.150	1,545.0	0.800	2.849	3957.834	
8	6.143	1,842.9	0.900	3.022	4894.184	
9	8.090	2,427.0	1.200	3.489	6274.390	
10	14.480	4,344.0	1.600	4.029	9409.657	
11	11.470	3,441.0	2.500	5.036	11339.741	
12	5.540	1,662.0	3.100	5.608	11339.741	
		21,208			**11,340**	**MAX. STOR**

Notes:

1. Inflow per unit hydrograph calulations.

PROJECT NAME: WILDOMAR TRAIL PROJECT
PROJECT LOCATION: CLINTON KEITH RAOD AND WILDOMAR TRAIL
BASIN ROUTING CALCULATION

Storm Period, Years:	100
Storm Period, Hrs:	3
Peak Inflow Rate (cfs):	10.10
Peak Outflow (cfs):	5.52
Peak Storage (cubic ft):	10,970

BASIN B

Unit Time Period (5 min.)	Inflow (cfs)	Volume (cubic ft)	Elevation (ft)	Outflow (cfs)	Storage (cubic ft)	
1	0.730	219.0	0.100	1.007	0.000	
2	1.280	384.0	0.100	1.007	81.817	
3	1.230	369.0	0.100	1.007	148.633	
4	1.430	429.0	0.100	1.007	275.450	
5	1.630	489.0	0.100	1.007	462.267	
6	1.870	561.0	0.100	1.007	721.084	
7	1.830	549.0	0.100	1.007	967.900	
8	1.910	573.0	0.100	1.007	1238.717	
9	2.050	615.0	0.200	1.425	1426.365	
10	1.860	558.0	0.200	1.425	1557.014	
11	1.780	534.0	0.300	1.745	1567.617	
12	1.950	585.0	0.300	1.745	1629.220	
13	2.340	702.0	0.300	1.745	1807.823	
14	2.580	774.0	0.300	1.745	2058.427	
15	2.620	786.0	0.400	2.015	2240.060	
16	2.490	747.0	0.500	2.252	2311.358	
17	2.800	840.0	0.500	2.252	2475.655	
18	3.180	954.0	0.500	2.252	2753.953	
19	3.070	921.0	0.600	2.467	2934.758	
20	3.150	945.0	0.700	2.665	3080.256	
21	3.710	1,113.0	0.700	2.665	3393.755	
22	3.910	1,173.0	0.800	2.849	3712.051	
23	3.730	1,119.0	0.900	3.022	3924.501	
24	3.680	1,104.0	0.900	3.022	4121.952	
25	3.790	1,137.0	1.000	3.185	4303.364	
26	4.630	1,389.0	1.000	3.185	4736.777	
27	5.800	1,740.0	1.200	3.489	5429.983	
28	5.270	1,581.0	1.400	3.769	5880.317	
29	6.900	2,070.0	1.500	3.901	6779.966	
30	8.920	2,676.0	1.800	4.274	8173.911	
31	10.100	3,030.0	2.200	4.725	9786.546	
32	9.080	2,724.0	2.600	5.136	10969.708	
33	5.160	1,548.0	3.000	5.517	10862.582	
34	2.720	816.0	2.900	5.424	10051.275	
35	2.200	660.0	2.700	5.234	9141.085	
36	1.320	396.0	2.400	4.935	8056.695	
		36,810			**10,970**	**MAX. STOR**

Notes:
1. Inflow per unit hydrograph calulations.

PROJECT NAME: WILDOMAR TRAIL PROJECT

PROJECT LOCATION: CLINTON KEITH RAOD AND WILDOMAR TRAIL

BASIN ROUTING CALCULATION

Storm Period, Years:	100
Storm Period, Hrs:	6
Peak Inflow Rate (cfs):	1.55
Peak Outflow (cfs):	5.42
Peak Storage (cubic ft):	1,288

BASIN B

Unit Time Period (5 min.)	Inflow (cfs)	Volume (cubic ft)	Elevation (ft)	Outflow (cfs)	Storage (cubic ft)
1	0.370	111.0	0.100	1.007	-
2	0.730	219.0	0.100	1.007	-
3	0.830	249.0	0.100	1.007	-
4	0.850	255.0	0.100	1.007	-
5	0.860	258.0	0.100	1.007	-
6	0.930	279.0	0.100	1.007	-
7	0.990	297.0	0.100	1.007	-
8	1.000	300.0	0.100	1.007	-
9	1.000	300.0	0.100	1.007	-
10	1.000	300.0	0.100	1.007	-
11	1.000	300.0	0.100	1.007	-
12	1.090	327.0	0.100	1.007	24.817
13	1.150	345.0	0.100	1.007	67.633
14	1.160	348.0	0.100	1.007	113.450
15	1.160	348.0	0.100	1.007	159.267
16	1.160	348.0	0.100	1.007	205.084
17	1.160	348.0	0.100	1.007	250.900
18	1.160	348.0	0.100	1.007	296.717
19	1.160	348.0	0.100	1.007	342.534
20	1.160	348.0	0.100	1.007	388.351
21	1.160	348.0	0.100	1.007	434.167
22	1.160	348.0	0.100	1.007	479.984
23	1.160	348.0	0.100	1.007	525.801
24	1.270	381.0	0.100	1.007	604.617
25	1.240	372.0	0.100	1.007	674.434
26	1.280	384.0	0.100	1.007	756.251
27	1.340	402.0	0.100	1.007	856.068
28	1.350	405.0	0.100	1.007	958.884
29	1.360	408.0	0.100	1.007	1064.701
30	1.360	408.0	0.100	1.007	1170.518
31	1.360	408.0	0.200	1.425	1170.518
32	1.360	408.0	0.200	1.425	1170.518
33	1.460	438.0	0.200	1.425	1181.166

34	1.530	459.0	0.200	1.425	1212.814	
35	1.550	465.0	0.200	1.425	1250.463	
36	1.550	465.0	0.200	1.425	1288.111	
37	1.550	465.0	0.200	1.425	1325.759	
38	1.650	495.0	0.200	1.425	1393.408	
39	1.730	519.0	0.200	1.425	1485.056	
40	1.740	522.0	0.200	1.425	1579.704	
41	1.840	552.0	0.300	1.745	1608.308	
42	2.020	606.0	0.300	1.745	1690.911	
43	2.210	663.0	0.300	1.745	1830.514	
44	2.300	690.0	0.300	1.745	1997.117	
45	2.420	726.0	0.400	2.015	2118.751	
46	2.500	750.0	0.400	2.015	2264.384	
47	2.610	783.0	0.500	2.252	2371.682	
48	2.690	807.0	0.500	2.252	2502.979	
49	2.810	843.0	0.500	2.252	2670.277	
50	2.990	897.0	0.600	2.467	2827.082	
51	3.180	954.0	0.600	2.467	3040.888	
52	3.370	1,011.0	0.700	2.665	3252.386	
53	3.560	1,068.0	0.700	2.665	3520.884	
54	3.650	1,095.0	0.800	2.849	3761.181	
55	3.770	1,131.0	0.900	3.022	3985.631	
56	3.950	1,185.0	1.000	3.185	4215.043	
57	4.140	1,242.0	1.000	3.185	4501.456	
58	4.230	1,269.0	1.100	3.341	4768.227	
59	4.350	1,305.0	1.200	3.489	5026.434	
60	4.530	1,359.0	1.300	3.632	5295.897	
61	5.120	1,536.0	1.300	3.632	5742.359	
62	6.020	1,806.0	1.500	3.901	6378.008	
63	6.770	2,031.0	1.600	4.029	7200.275	
64	7.380	2,214.0	1.900	4.391	8097.089	
65	8.170	2,451.0	2.100	4.616	9163.311	
66	9.500	2,850.0	2.400	4.935	10532.922	
67	6.550	1,965.0	2.800	5.330	10898.918	**MAX. STOR**
68	2.860	858.0	2.900	5.424	10821.987	
69	1.390	417.0	2.900	5.424	10700.957	
70	0.860	258.0	2.900	5.424	10564.026	
71	0.590	177.0	2.800	5.330	10421.826	
72	0.380	114.0	2.800	5.330	10273.325	
		50,037.0			**10898.9**	**MAX. STOR**

Notes:

1. Inflow per unit hydrograph calulations.

PROJECT NAME: WILDOMAR TRAIL PROJECT

PROJECT LOCATION: CLINTON KEITH RAOD AND WILDOMAR TRAIL

BASIN ROUTING CALCULATION

Storm Period, Years:	100
Storm Period, Hrs:	24
Peak Inflow Rate (cfs):	0.50
Peak Outflow (cfs):	3.63
Peak Storage (cubic ft):	0

BASIN B

Unit Time Period (5 min.)	Inflow (cfs)	Volume (cubic ft)	Elevation (ft)	Outflow (cfs)	Storage (cubic ft)
1	0.100	30.0	0.100	1.007	-
2	0.180	54.0	0.100	1.007	-
3	0.190	57.0	0.100	1.007	-
4	0.250	75.0	0.100	1.007	-
5	0.290	87.0	0.100	1.007	-
6	0.300	90.0	0.100	1.007	-
7	0.300	90.0	0.100	1.007	-
8	0.300	90.0	0.100	1.007	-
9	0.300	90.0	0.100	1.007	-
10	0.350	105.0	0.100	1.007	-
11	0.390	117.0	0.100	1.007	-
12	0.390	117.0	0.100	1.007	-
13	0.350	105.0	0.100	1.007	-
14	0.310	93.0	0.100	1.007	-
15	0.300	90.0	0.100	1.007	-
16	0.300	90.0	0.100	1.007	-
17	0.300	90.0	0.100	1.007	-
18	0.300	90.0	0.100	1.007	-
19	0.300	90.0	0.100	1.007	-
20	0.300	90.0	0.100	1.007	-
21	0.300	90.0	0.100	1.007	-
22	0.350	105.0	0.100	1.007	-
23	0.390	117.0	0.100	1.007	-
24	0.390	117.0	0.100	1.007	-
25	0.400	120.0	0.100	1.007	-
26	0.400	120.0	0.100	1.007	-
27	0.400	120.0	0.100	1.007	-
28	0.400	120.0	0.100	1.007	-
29	0.400	120.0	0.100	1.007	-
30	0.400	120.0	0.100	1.007	-
31	0.450	135.0	0.100	1.007	-
32	0.490	147.0	0.100	1.007	-
33	0.490	147.0	0.100	1.007	-

34	0.500	150.0	0.100	1.007	-
35	0.500	150.0	0.100	1.007	-
36	0.500	150.0	0.100	1.007	-
37	0.500	150.0	0.100	1.007	-
38	0.500	150.0	0.100	1.007	-
39	0.500	150.0	0.100	1.007	-
40	0.500	150.0	0.100	1.007	-
41	0.500	150.0	0.100	1.007	-
42	0.500	150.0	0.100	1.007	-
43	0.500	150.0	0.100	1.007	-
44	0.500	150.0	0.100	1.007	-
45	0.500	150.0	0.100	1.007	-
46	0.500	150.0	0.100	1.007	-
47	0.590	177.0	0.100	1.007	-
48	0.590	177.0	0.100	1.007	-
49	0.590	177.0	0.100	1.007	-
50	0.590	177.0	0.100	1.007	-
51	0.590	177.0	0.100	1.007	-
52	0.590	177.0	0.100	1.007	-
53	0.650	195.0	0.100	1.007	-
54	0.690	207.0	0.100	1.007	-
55	0.690	207.0	0.100	1.007	-
56	0.690	207.0	0.100	1.007	-
57	0.690	207.0	0.100	1.007	-
58	0.690	207.0	0.100	1.007	-
59	0.750	225.0	0.100	1.007	-
60	0.780	234.0	0.100	1.007	-
61	0.790	237.0	0.100	1.007	-
62	0.690	207.0	0.100	1.007	-
63	0.610	183.0	0.100	1.007	-
64	0.600	180.0	0.100	1.007	-
65	0.650	195.0	0.100	1.007	-
66	0.690	207.0	0.100	1.007	-
67	0.690	207.0	0.100	1.007	-
68	0.750	225.0	0.100	1.007	-
69	0.780	234.0	0.100	1.007	-
70	0.790	237.0	0.100	1.007	-
71	0.790	237.0	0.100	1.007	-
72	0.790	237.0	0.100	1.007	-
73	0.790	237.0	0.100	1.007	-
74	0.840	252.0	0.100	1.007	-
75	0.880	264.0	0.100	1.007	-
76	0.890	267.0	0.100	1.007	-
77	0.890	267.0	0.100	1.007	-
78	0.890	267.0	0.100	1.007	-
79	0.940	282.0	0.100	1.007	-
80	0.980	294.0	0.100	1.007	-

81	0.990	297.0	0.100	1.007	-
82	0.990	297.0	0.100	1.007	-
83	0.990	297.0	0.100	1.007	-
84	0.990	297.0	0.100	1.007	-
85	0.990	297.0	0.100	1.007	-
86	0.990	297.0	0.100	1.007	-
87	0.990	297.0	0.100	1.007	-
88	1.040	312.0	0.100	1.007	9.817
89	1.080	324.0	0.100	1.007	31.633
90	1.090	327.0	0.100	1.007	56.450
91	1.140	342.0	0.100	1.007	96.267
92	1.180	354.0	0.100	1.007	148.084
93	1.190	357.0	0.100	1.007	202.900
94	1.240	372.0	0.100	1.007	272.717
95	1.280	384.0	0.100	1.007	354.534
96	1.290	387.0	0.100	1.007	439.351
97	1.430	429.0	0.100	1.007	566.167
98	1.540	462.0	0.100	1.007	725.984
99	1.560	468.0	0.100	1.007	891.801
100	1.570	471.0	0.100	1.007	1060.617
101	1.570	471.0	0.100	1.007	1229.434
102	1.570	471.0	0.200	1.425	1273.083
103	1.640	492.0	0.200	1.425	1337.731
104	1.700	510.0	0.200	1.425	1420.379
105	1.710	513.0	0.200	1.425	1506.027
106	1.780	534.0	0.200	1.425	1612.676
107	1.840	552.0	0.300	1.745	1641.279
108	1.850	555.0	0.300	1.745	1672.882
109	1.990	597.0	0.300	1.745	1746.485
110	2.100	630.0	0.300	1.745	1853.089
111	2.120	636.0	0.300	1.745	1965.692
112	2.200	660.0	0.400	2.015	2021.325
113	2.250	675.0	0.400	2.015	2091.959
114	2.260	678.0	0.400	2.015	2165.592
115	2.340	702.0	0.400	2.015	2263.226
116	2.390	717.0	0.500	2.252	2304.523
117	2.400	720.0	0.500	2.252	2348.821
118	2.480	744.0	0.500	2.252	2417.119
119	2.530	759.0	0.500	2.252	2500.416
120	2.540	762.0	0.500	2.252	2586.714
121	2.060	618.0	0.600	2.467	2586.714
122	1.690	507.0	0.600	2.467	2586.714
123	1.630	489.0	0.600	2.467	2586.714
124	1.620	486.0	0.600	2.467	2586.714
125	1.620	486.0	0.600	2.467	2586.714
126	1.620	486.0	0.600	2.467	2586.714
127	1.970	591.0	0.600	2.467	2586.714

128	2.240	672.0	0.600	2.467	2586.714
129	2.280	684.0	0.600	2.467	2586.714
130	2.300	684.0	0.600	2.467	2586.714
131	2.300	690.0	0.600	2.467	2586.714
132	2.300	690.0	0.600	2.467	2586.714
133	2.230	690.0	0.600	2.467	2586.714
134	2.180	669.0	0.600	2.467	2586.714
135	2.180	654.0	0.600	2.467	2586.714
136	2.180	654.0	0.600	2.467	2586.714
137	2.180	654.0	0.600	2.467	2586.714
138	2.180	654.0	0.600	2.467	2586.714
139	2.040	654.0	0.600	2.467	2586.714
140	1.940	612.0	0.600	2.467	2586.714
141	1.920	582.0	0.600	2.467	2586.714
142	1.990	597.0	0.600	2.467	2586.714
143	2.040	612.0	0.600	2.467	2586.714
144	2.050	615.0	0.600	2.467	2586.714
145	2.540	762.0	0.600	2.467	2608.519
146	2.920	876.0	0.600	2.467	2744.324
147	2.980	894.0	0.600	2.467	2898.130
148	3.070	921.0	0.600	2.467	3078.935
149	3.130	939.0	0.700	2.665	3218.433
150	3.140	942.0	0.700	2.665	3360.931
151	3.280	984.0	0.800	2.849	3490.228
152	3.390	1,017.0	0.800	2.849	3652.524
153	3.410	1,023.0	0.900	3.022	3768.975
154	3.480	1,044.0	0.900	3.022	3906.425
155	3.540	1,062.0	0.900	3.022	4061.875
156	3.550	1,065.0	1.000	3.185	4171.288
157	3.900	1,170.0	1.000	3.185	4385.700
158	4.170	1,251.0	1.100	3.341	4634.472
159	4.210	1,263.0	1.100	3.341	4895.243
160	4.230	1,269.0	1.200	3.489	5117.450
161	4.230	1,269.0	1.300	3.632	5296.912
162	3.470	1,041.0	1.300	3.632	5248.375
163	2.880	864.0	1.300	3.632	5022.838
164	2.790	837.0	1.300	3.632	4770.300
165	2.760	828.0	1.200	3.489	4551.507
166	2.760	828.0	1.100	3.341	4377.278
167	2.770	831.0	1.100	3.341	4206.050
168	3.050	915.0	1.000	3.185	4165.462
169	3.260	978.0	1.000	3.185	22.413
170	3.300	990.0	0.100	1.007	687.817
171	3.240	972.0	0.100	1.007	669.817
172	3.190	957.0	0.100	1.007	654.817
173	3.180	954.0	0.100	1.007	651.817
174	3.180	954.0	0.100	1.007	651.817

MAX. STOR

175	3.180	954.0	0.100	1.007	651.817
176	3.180	954.0	0.100	1.007	651.817
177	3.110	933.0	0.100	1.007	630.817
178	3.060	918.0	0.100	1.007	615.817
179	3.060	918.0	0.100	1.007	615.817
180	2.990	897.0	0.100	1.007	594.817
181	2.930	879.0	0.100	1.007	576.817
182	2.930	879.0	0.100	1.007	576.817
183	2.860	858.0	0.100	1.007	555.817
184	2.800	840.0	0.100	1.007	537.817
185	2.800	840.0	0.100	1.007	537.817
186	2.520	756.0	0.100	1.007	453.817
187	2.310	693.0	0.100	1.007	390.817
188	2.270	681.0	0.100	1.007	378.817
189	2.260	678.0	0.100	1.007	375.817
190	2.270	681.0	0.100	1.007	378.817
191	2.270	681.0	0.100	1.007	378.817
192	1.300	390.0	0.100	1.007	87.817
193	0.560	168.0	0.100	1.007	-
194	0.430	129.0	0.100	1.007	-
195	0.400	120.0	0.100	1.007	-
196	0.400	120.0	0.100	1.007	-
197	0.400	120.0	0.100	1.007	-
198	0.350	105.0	0.100	1.007	-
199	0.310	93.0	0.100	1.007	-
200	0.300	90.0	0.100	1.007	-
201	0.300	90.0	0.100	1.007	-
202	0.300	90.0	0.100	1.007	-
203	0.300	90.0	0.100	1.007	-
204	0.400	120.0	0.100	1.007	-
205	0.480	144.0	0.100	1.007	-
206	0.490	147.0	0.100	1.007	-
207	0.500	150.0	0.100	1.007	-
208	0.500	150.0	0.100	1.007	-
209	0.500	150.0	0.100	1.007	-
210	0.500	150.0	0.100	1.007	-
211	0.500	150.0	0.100	1.007	-
212	0.500	150.0	0.100	1.007	-
213	0.440	132.0	0.100	1.007	-
214	0.410	123.0	0.100	1.007	-
215	0.400	120.0	0.100	1.007	-
216	0.400	120.0	0.100	1.007	-
217	0.400	120.0	0.100	1.007	-
218	0.400	120.0	0.100	1.007	-
219	0.400	120.0	0.100	1.007	-
220	0.400	120.0	0.100	1.007	-
221	0.400	120.0	0.100	1.007	-

222	0.350	105.0	0.100	1.007	-	
223	0.310	93.0	0.100	1.007	-	
224	0.300	90.0	0.100	1.007	-	
225	0.250	75.0	0.100	1.007	-	
226	0.210	63.0	0.100	1.007	-	
227	0.200	60.0	0.100	1.007	-	
228	0.250	75.0	0.100	1.007	-	
229	0.290	87.0	0.100	1.007	-	
230	0.300	90.0	0.100	1.007	-	
231	0.350	105.0	0.100	1.007	-	
232	0.390	117.0	0.100	1.007	-	
233	0.390	117.0	0.100	1.007	-	
234	0.350	105.0	0.100	1.007	-	
235	0.310	93.0	0.100	1.007	-	
236	0.300	90.0	0.100	1.007	-	
237	0.250	75.0	0.100	1.007	-	
238	0.210	63.0	0.100	1.007	-	
239	0.200	60.0	0.100	1.007	-	
240	0.250	75.0	0.100	1.007	-	
		96,300			**5,297**	**MAX. STOR**

Notes:

1. Inflow per unit hydrograph calulations.

PROJECT NAME: WILDOMAR TRAIL PROJECT

PROJECT LOCATION: CLINTON KEITH RAOD AND WILDOMAR TRAIL

BASIN B

BASIN STORAGE and Outlet RESULTS

Basin Type:	ECO-RAIN
Bottom Elevation (ft):	0
Top Elevation (ft):	5.71
Freeboard (ft):	N/A
Max. Storage (cubic ft)	20,720

Outlet Type:	Orifice
Number of Orifice:	1
Discharge Coefficient:	0.66
Size of Orifice (inch):	10.5

Stage (ft)	Storage (cubic ft)
0.00	0
0.10	1,165
0.20	1,514
0.30	1,864
0.40	2,213
0.50	2,562
0.60	2,911
0.70	3,260
0.80	3,610
0.90	3,959
1.00	4,308
1.10	4,657
1.20	5,006
1.30	5,356
1.40	5,705
1.50	6,054
1.60	6,403
1.70	6,752
1.80	7,102
1.90	7,451
2.00	7,800
2.10	8,149
2.20	8,498
2.30	8,848
2.40	9,197
2.50	9,546
2.60	9,895
2.70	10,244
2.80	10,594
2.90	10,943
3.00	11,292
3.10	11,641
3.20	11,990
3.30	12,340
3.40	12,689
3.50	13,038
3.60	13,387
3.70	13,736
3.80	14,086
3.90	14,435
4.00	14,784
4.10	15,133
4.20	15,482

Head (ft)	Flow Rate (CFS)
0.00	0.00
0.10	1.01
0.20	1.42
0.30	1.74
0.40	2.01
0.50	2.25
0.60	2.47
0.70	2.67
0.80	2.85
0.90	3.02
1.00	3.19
1.10	3.34
1.20	3.49
1.30	3.63
1.40	3.77
1.50	3.90
1.60	4.03
1.70	4.15
1.80	4.27
1.90	4.39
2.00	4.50
2.10	4.62
2.20	4.72
2.30	4.83
2.40	4.93
2.50	5.04
2.60	5.14
2.70	5.23
2.80	5.33
2.90	5.42
3.00	5.52
3.10	5.61
3.20	5.70
3.30	5.79
3.40	5.87
3.50	5.96
3.60	6.04
3.70	6.13
3.80	6.21
3.90	6.29
4.00	6.37
4.10	6.45
4.20	6.53
4.30	6.61

4.30	15,832	4.40	6.68
4.40	16,181	4.50	6.76
4.50	16,530	4.60	6.83
4.60	16,879	4.70	6.91
4.70	17,228	4.80	6.98
4.80	17,578	4.90	7.05
4.90	17,927	5.00	7.12
5.00	18,276	5.10	7.19
5.10	18,625	5.20	7.26
5.20	18,974	5.30	7.33
5.30	19,324	5.40	7.40
5.40	19,673	5.50	7.47
5.50	20,022	5.60	7.54
5.60	20,371	5.70	7.60
5.70	20,720		

ECO-RAIN TANK SYSTEMS DIMENSIONS CHART

VEHICULAR AREAS - 5 SMALL PLATES PER UNIT

Tank Units	Size in Feet	Size in Inches	Size in Millimeters
ET-1500 Half	1.34' w x 2.23' l x .8' depth	16.06" w x 26.76" l x 9.60" d	408.4mm x 680mm x 241.3mm d
ET-1501 Single	1.34' w x 2.23' l x 1.45' depth	16.06" w x 26.76" l x 17.40" d	408.4mm x 680mm x 442.0mm d
ET-1501.5 Single + ½	1.34' w x 2.23' l x 2.19' depth	16.06" w x 26.76" l x 26.28" d	408.4mm x 680mm x 667.5mm d
ET-1502 Double	1.34' w x 2.23' l x 2.84' depth	16.06" w x 26.76" l x 34.08" d	408.4mm x 680mm x 865.6mm d
ET-1502.5 Double + ½	1.34' w x 2.23' l x 3.58' depth	16.06" w x 26.76" l x 42.96" d	408.4mm x 680mm x 1,092.2mm d
ET-1503 Triple	1.34' w x 2.23' l x 4.23' depth	16.06" w x 26.76" l x 50.76" d	408.4mm x 680mm x 1,295.4mm d
ET-1503.5 Triple + ½	1.34' w x 2.23' l x 4.96' depth	16.06" w x 26.76" l x 59.61" d	408.4mm x 680mm x 1,511.8mm d
ET-1504 Quad	1.34' w x 2.23' l x 5.61' depth	16.06" w x 26.76" l x 67.32" d	408.4mm x 680mm x 1,709.9mm d
ET-1504.5 Quad + ½	1.34' w x 2.23' l x 6.35' depth	16.06" w x 26.76" l x 76.20" d	408.4mm x 680mm x 1,935.5mm d
ET-1505 Pent	1.34' w x 2.23' l x 7.00' depth	16.06" w x 26.76" l x 84.00" d	408.4mm x 680mm x 2,133.6mm d

Tank Unit	Outer Dimension Cubic Ft	Outer Dimension Cubic Mt	97% Water Storage Cubic Ft	97% Water Storage Gallons	97% Water Storage Cubic Mt	ET-1506 Large Plates	ET-1507 Small Plates	ET-1508 Large Half Plates	ET-1509 Small Half Plates	Tank Unit
ET-1500 Half	2.39	.067	2.31	17.28	.065	2	-	2	5	**1500**
ET-1501 Single	4.33	.122	4.20	31.41	.118	4	5	-	-	**1501**
ET-1501.5	6.54	.185	6.34	47.42	.179	5	5	2	5	**1501.5**
ET-1502 Double	8.48	.240	8.22	63.21	.232	7	10	-	-	**1502**
ET-1502.5	10.69	.302	10.37	77.57	.293	8	10	2	5	**1502.5**
ET-1503 Triple	12.64	.357	12.26	91.71	.347	10	15	-	-	**1503**
ET-1503.5	14.82	.419	14.37	107.49	.406	11	15	2	5	**1503.5**
ET-1504 Quad	16.76	.474	16.26	121.63	.460	13	20	-	-	**1504**
ET-1504.5	18.97	.537	18.40	137.64	.521	14	20	2	5	**1504.5**
ET-1505 Pent	20.91	.592	20.28	151.70	.574	16	25	-	-	**1505**

ET-1506 Large Plate: 26 ¾" x 16 1/8" /ET-1507 Small Plate: 14 ¼" x 15 ¾" /ET-1508 Large Half Plate: 26 ¾" x 8" /ET-1509 Small Half Plate: 14 ¼" x 8" /Plate Depth: ¾ "

ET-1301 EcoRain 1" Drainage Cell - 1" x 19.70" x 23.6" (25 x 500 x 600mm) = 3.23 square feet .27 cu ft/.22 cu ft void at 80%
ET-1401 EcoRain 2" Drainage Cell - 2" x 11.75" x 19.4" (50 x 299 x 492mm) = 1.59 square feet .28 cu ft/.24 cu ft void at 87.6%

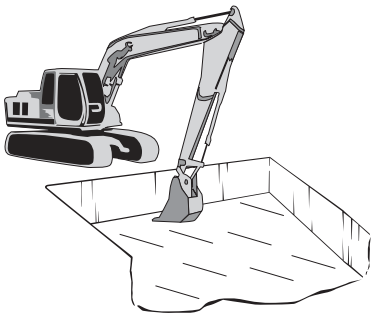
Conversions

1 cubic foot = 7.4805195 gallons
1 liter = 0.2641721 gallon
1 millimeter = 0.0393701 inch
1 cubic meter = 35.31 cubic feet = 264.2 gallons = .0008107 acre feet
1 meter = 3.28084 feet
1 square meter = 10.7639104 square feet

04/02/21

ECO-RAIN DETENTION & EXFILTRATION TANK INSTALLATION GUIDE*

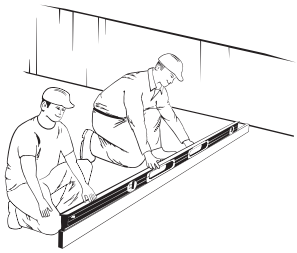
Step 1
Excavate Trench Larger than Specified Tank Size, per Engineered Detail



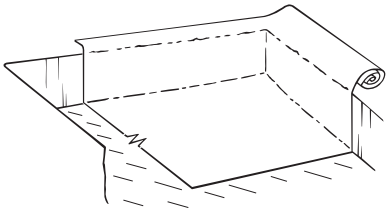
Step 2
Compact Base to 35 psi



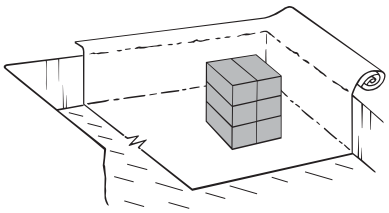
Step 3
Add **Sand** or Free Drainage Material* to Base, Compact and Level with a Straight Edge



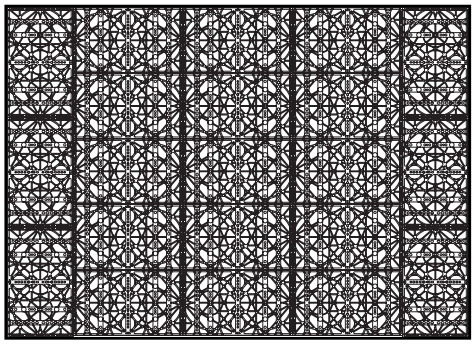
Step 4
Lay Geotextile Material in Bottom and on Sides of Trench, Enough to Fully Wrap Tank, with 12″ Seam Overlaps



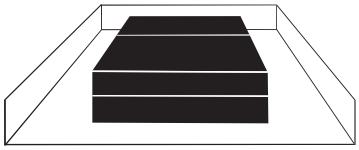
Step 5
Install Tanks upright for Maximum Strength and per the Warranty:
Half Tank - .79′ High
Single Tank - 1.48′ High



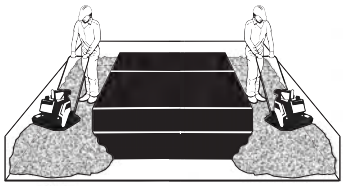
Step 6
Orient Tanks Lengthwise along Perimeter



Step 7
Cover Eco-Rain Tanks with Geotextile Material - Wrap Tight, Cut Away Excess Folds, Overlap and/or Seal Joints with Tape

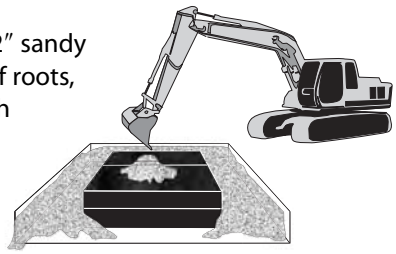


Step 8
Backfill Sides with Sandy Fill in maximum 12″ Layers - Compacting Each Layer at least 95%



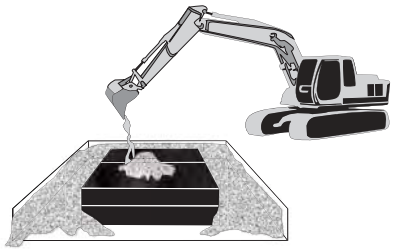
Step 9
Backfill over Top with 12″ sandy backfill free of rocks, stiff roots, or debris - Compact with Lightweight Equipment

Correct



Do Not Drop Fill from High Up

Incorrect



Step 10
Finish Backfill per Engineered Detail

Minimum 12″ Top Cover for Pedestrian Use

Minimum 24″ Top Cover for Vehicle Use – Layer Biaxial Geogrid 12″ Above Eco-Rain Tanks & Extending 3′ beyond Edges of Eco-Rain Tank or as per Engineer Detail.

*Email contact@ecoraintank.com to request full specifications and submittal installation instructions

FOR USA AND CANADA
Telephone: 818 501 0424
Fax: 818 501 0713
Eco-Rain Systems of America Inc.
12400 Ventura Blvd #167
Studio City, CA 91604
contact@ecoraintank.com
www.ecoraintank.com

ECO-RAIN OF AMERICA ™

Disclaimer: All information provided in this publication is correct to the best knowledge of the company and is given out in good faith. This information is intended only as a general guide, no responsibility can be accepted for any errors, omissions or incorrect assumptions. As each project is unique and as Eco-Rain Tank Systems and its distributors and agents worldwide have no direct control over the methods employed by the user in specifying, installing or supervising of its products hence no responsibility is accepted by Eco-Rain Tank Systems and its distributors and agents worldwide. Users should satisfy themselves as to the sustainability of the product for their purpose.

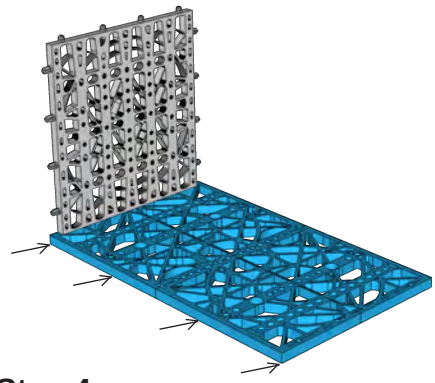
Eco-Rain Tank Systems

Assembly of Single and Multiple Eco-Rain Tanks

Single Tank Assembly

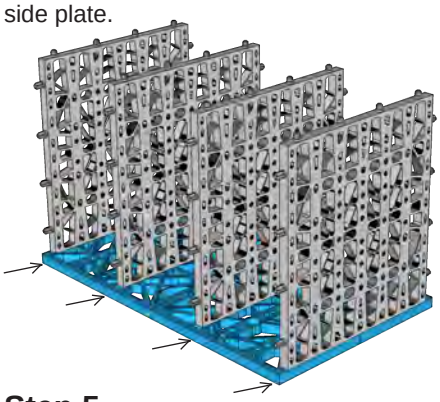
Step 1

Install large pegs of one small plate into holes of one side plate.



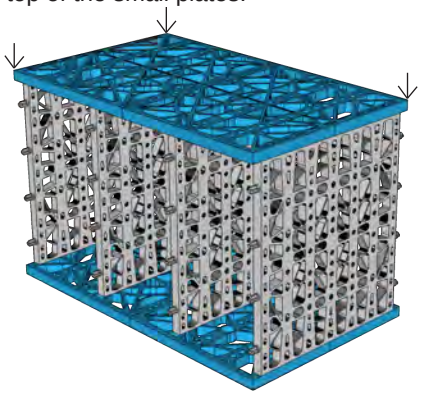
Step 2

Install large pegs of the second, third, and end small plates into holes of the side plate.



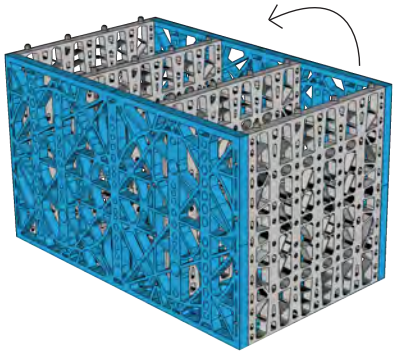
Step 3

Place and align the second side plate on top of the small plates.



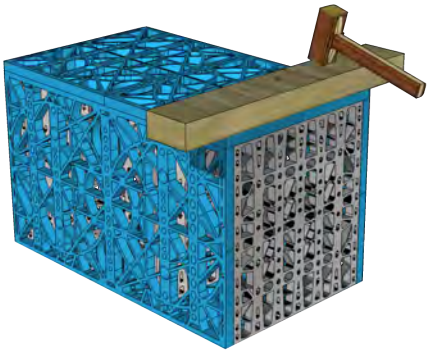
Step 4

Rotate the tank such that the side plates are now on the sides and the top and bottom are open.



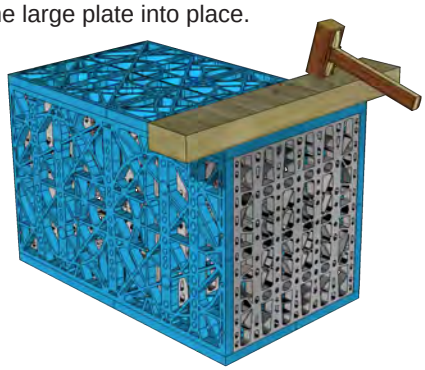
Step 5

Place and align a large plate with the pegs of the vertical small plates. Use a 2x4 and a dead weight hammer to tap the large plate into place.



Step 6

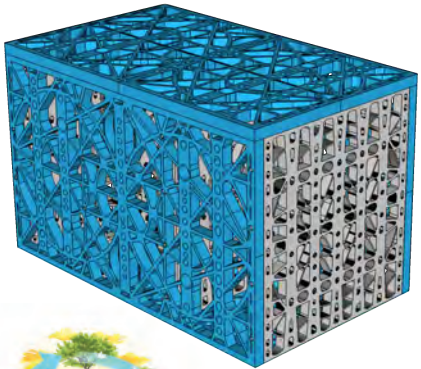
Turn the tank upside down. Place and align the second large plate with the pegs of the vertical small plates. Use a 2x4 and a dead weight hammer to tap the large plate into place.



Multiple Tank Assembly

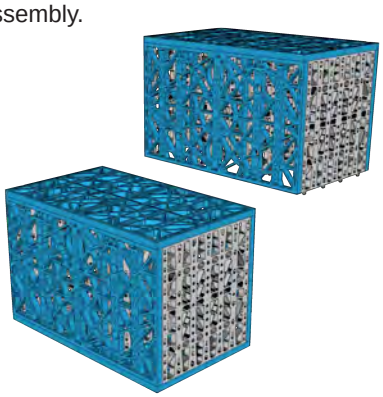
Step 1

Repeat Steps 1 through 5 for Multiple Tank Assembly.



Step 2

Turn the tank upside down. Align the tank (with one open end) over a complete tank for Double Tank Assembly.



Step 3

Use Multiple Tank Assembly Steps 1 and 2 for Triple, Quad and Pent Tank Assemblies. Check for full pin insertion and re-tap if necessary.

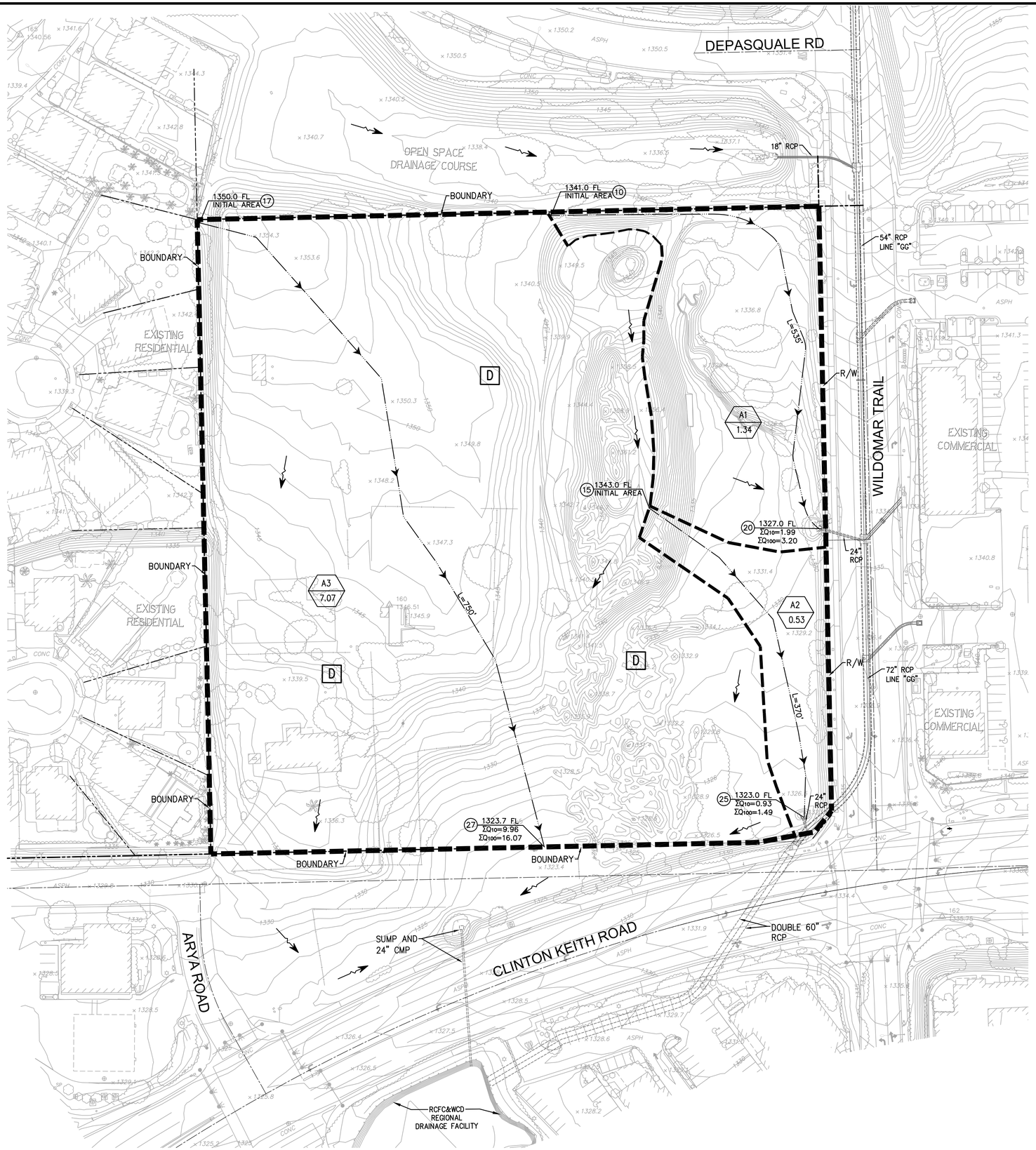


Disclaimer: All information provided in this publication is correct to the best knowledge of the company and is given out in good faith. This information is intended only as a general guide, no responsibility can be accepted for any errors, omissions or incorrect assumptions. As each project is unique and as Eco-Rain Tank Systems and its distributors and agents worldwide have no direct control over the methods employed by the user in specifying, installing or supervising of its products hence no responsibility is accepted by Eco-Rain Tank Systems and its distributors and agents worldwide. Users should satisfy themselves as to the sustainability of the product for their purpose.

Eco-Rain Tank ***Products & Systems are world-wide patent pending & design registered.***

818.501.0424 tel | 818.501.0713 fax | www.ecoraintank.c

BACKSLEEVES



LEGEND:

D1 / 0.73 AC	SUBAREA / ACREAGE
1	NODE
1 T_{10}=10.21	TIME OF CONCENTRATION IN MINUTES
Q_{10}=9.11	RUNOFF FOR 10 YEAR STORM EVENT IN CFS
Q_{100}=15.21	RUNOFF FOR 100 YEAR STORM EVENT IN CFS
849.0 FL	ELEVATION
	FLOW PATH
	SUBAREA BOUNDARY
	DRAINAGE AREA BOUNDARY
A	HYDROLOGIC SOIL GROUP

N

50' 25' 0' 50' 100'

GRAPHIC SCALE: 1 INCH = 50 FT

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
4649 Brockton Ave.
Riverside, CA 92506
714-685-6860
PREPARED BY:
RONALD W. SKLEPKO R.C.E. 46216 DATE

REGISTERED PROFESSIONAL ENGINEER RONALD W. SKLEPKO No. C46216 Exp. 12-31-2018 CIVIL STATE OF CALIFORNIA

NO.:	REVISION:	DATE:

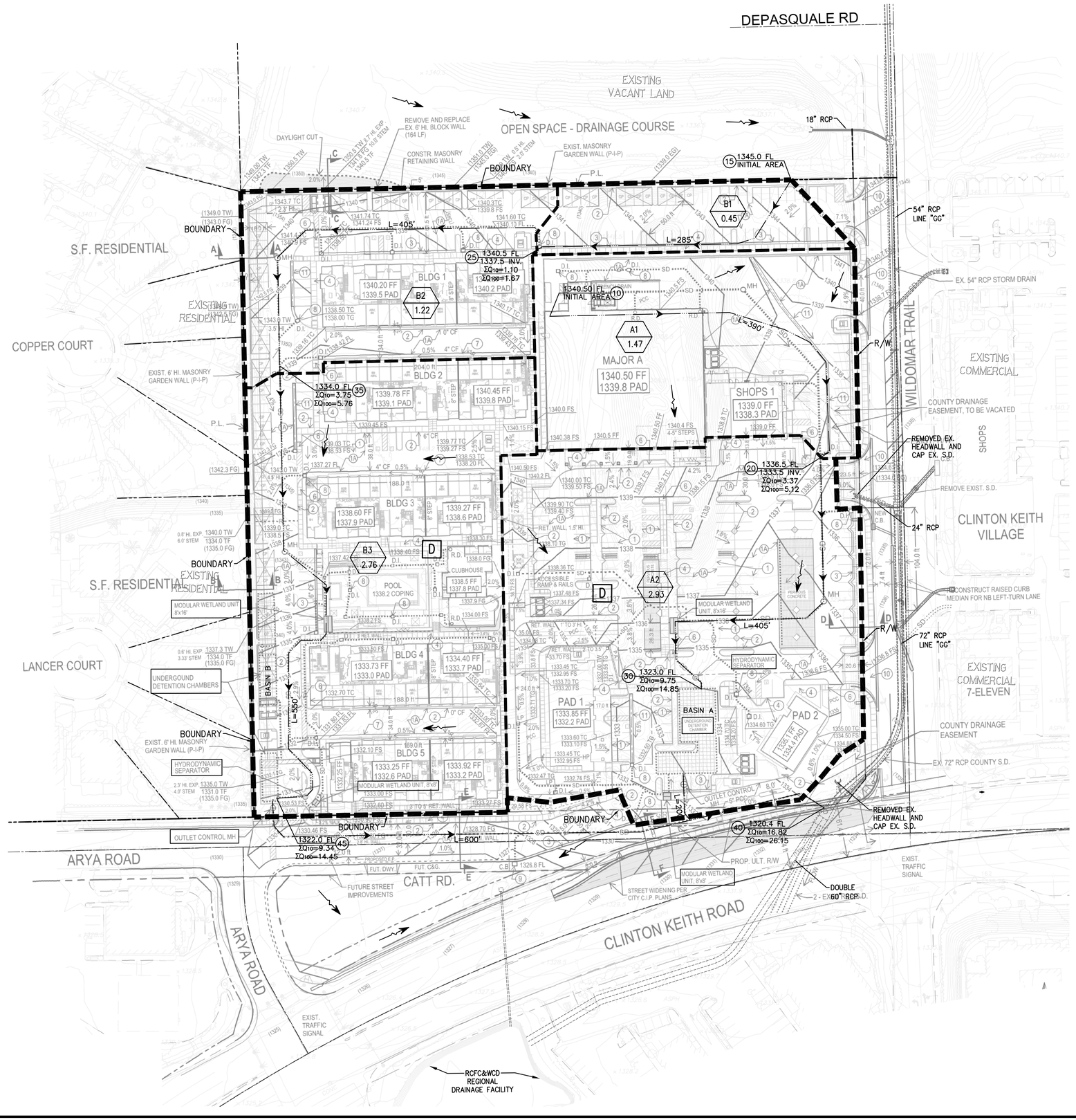
PROJECT: **WILDOMAR CROSSING MIXED-USE PROJECT**
WILDOMAR, CA

DRAWING NAME: **EXIST. CONDITION HYDROLOGY MAP**

ISSUE:	PRELIMINARY
DATE:	11/15/21
CHECKED: RWS	DRAWN: YH
DRAWING FILE:	21-994HMEX
PROJECT NO.:	21-994
SHEET NUMBER:	1 OF 1 SHEETS
SCALE:	AS SHOWN

EXTERNAL REFERENCES: 21-994ct01 21994 ct01 21-994bndy modified x-21108 Site Hv5 DRC
FILENAME: M:\2021\21-994 Sage Investco Wildomar Retail\HYDROLOGY\21-994 Hydrology_Ex.dwg, LAST SAVED ON: Nov 29 2021 8:35am PLOTTED BY: YANG, ON: Nov 29 2021 8:42am, CFG:

1880



LEGEND:

D1 / 0.73 AC	SUBAREA / ACREAGE
1	NODE
T_{10}=10.21	TIME OF CONCENTRATION IN MINUTES
Q_{10}=9.11	RUNOFF FOR 10 YEAR STORM EVENT IN CFS
Q_{100}=15.21	RUNOFF FOR 100 YEAR STORM EVENT IN CFS
849.0 FL	ELEVATION
	FLOW PATH
	SUBAREA BOUNDARY
	DRAINAGE AREA BOUNDARY
A	HYDROLOGIC SOIL GROUP

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
4649 Brockton Ave.
Riverside, CA 92506
714-685-6860
PREPARED BY:
RONALD W. SKLEPKO R.C.E. 46216 DATE

REGISTERED PROFESSIONAL ENGINEER RONALD W. SKLEPKO No. C46216 Exp. 12-31-2018 CIVIL STATE OF CALIFORNIA

NO.:	REVISION:	DATE:

PROJECT: **WILDOMAR CROSSING MIXED-USE PROJECT**
WILDMAR, CA

DRAWING NAME: **PROP. CONDITION HYDROLOGY MAP**

ISSUE:	PRELIMINARY
DATE:	11/15/21
CHECKED: RWS	DRAWN: YH
DRAWING FILE:	21-994HMP
PROJECT NO.:	21-994
SHEET NUMBER:	1 OF 1 SHEETS
SCALE:	AS SHOWN

EXTERNAL REFERENCES: 21-994at101 21994 ct01 21-994bndy modified x-21108 Site Hv5 DRC
FILENAME: M:\2021\21-994 Sage Investco Wildomar Retail\HYDROLOGY\21-994 Hydrology_PRO.dwg, LAST SAVED ON: Apr 19 2022 3:55pm PLOTTED BY: YANG, ON: Apr 20 2022 4:03pm, CFG:

1881

Appendix 14

Parking Demand Analysis

ENVIRONMENT | PLANNING | DEVELOPMENT SOLUTIONS, INC.



To:	City of Wildomar
From:	Meghan Macias, TE
Date:	4/8/2022
Re:	Parking Demand Analysis for the proposed Shopping Center project at Northwest Corner of Clinton Keith Rd & Wildomar Tr, Wildomar

This technical memorandum provides an evaluation of the parking demand for the proposed shopping center project located at 24850-23980 Catt Rd, northwest corner of Clinton Keith Rd & Wildomar Tr in the City of Wildomar. The purpose of this analysis is to determine the number of parking spaces that would be required by the project site which is currently vacant. The project proposes to construct a 34,540 SF shopping center on a 4.61-acre site at northwest corner of Clinton Keith Rd & Wildomar Tr in the City of Wildomar. It is anticipated that the project site will be used for retail and restaurant uses. The project site plan is shown in Figure 1.

Project Parking Supply and City Requirement

The project would provide a total of 195 parking spaces. According to City of Wildomar Municipal Code - *Section 17.188 (Off-Street Vehicle Parking Standards),* general retail uses which include shopping centers with restaurants, shall provide 6 spaces per 1,000 square feet, resulting in a requirement of 208 parking spaces for the proposed project. The project would be under parked by 13 spaces, according to the City of Wildomar requirements.

Parking Rates of Adjacent Cities

The City of Wildomar is adjacent to the Cities of Murrieta, Menifee, and Lake Elsinore. EPD prepared a summary of the parking requirements for shopping center projects in the three adjacent Cities. The comparison is shown in Table 1. As shown in the table, the parking requirements for shopping center land use in adjacent cities is significantly lower than in the City of Wildomar. The highest number of parking spaces that would be required in an adjacent city is in the Cities of Murrieta and Lake Elsinore, where 139 parking spaces would be required for the project, 69 fewer spaces than required in the City of Wildomar.

Review of Table 1 shows that the required parking would range from 104 spaces in the City of Menifee to 139 spaces in the Cities of Murrieta and Lake Elsinore. Because of the wide range of rates utilized in Wildomar and adjacent cities, and the fact that the parking demand of the project would be unlikely to change if it was in an adjacent City, parking rates from the Institute of Transportation Engineers were used to validate the city parking requirements.

Table 1. Parking Calculation using City Rates

Land Use	Parking Ratio	Area	Spaces Required
City of Wildomar[1]			
General Retail	6/ 1,000 SF	34,540	208
City of Murrieta[2]			
Shopping Center	1/ 250 SF	34,540	139
City of Menifee[3]			
General Retail	3/ 1,000 SF	34,540	104
City of Lake Elsinore[4]			
Commercial	1/ 250 SF	34,540	139

[1] City of Wildomar Municipal Code, Section *17.188 - Off-Street Vehicle Parking Standards.*

[2] City of Murrieta Municipal Code, Section *16.34.040 - Number of Parking Spaces Required.*

[3] City of Menifee Municipal Code, Section *9.215.040 - Development Standards.*

[4] City of Lake Elsinore Municipal Code, Section *17.148.030 - Number of Parking Spaces Required.*

Parking Rates from the Institute of Transportation Engineers (ITE)

The Institute of Transportation Engineers (ITE) Parking Generation (2019) includes parking demand rates for various uses derived from surveys taken throughout the United States. The parking rates for Shopping Center (land use 820) are based on 93 studies. The average parking rate for Shopping Center use were used. To provide a conservative analysis of parking demand, the parking rates for a Saturday in December were utilized. per ITE, Shopping Center parking demand on a Saturday in December is 4.58 spaces per 1,000 square feet. Application of the ITE rate of 4.58 spaces per 1,000 square feet would result in a parking demand of 159 spaces. Table 2 shows the parking demand that would result using the ITE parking rate.

Table 2. Parking Calculation using ITE Rates

Land Use	Parking Ratio	Area	Spaces Required
ITE Rates[1]			
Shopping Center	4.58/ 1,000 SF	34,540	159

[1] Parking rates from the Institute of Transportation Engineers, *Parking Generation*, 5th Edition, 2019 - Land Use Code 820 - Shopping Center.

Internal Capture

Internal Capture quantifies customers of specific uses that may visit other uses on-site without leaving the site, thereby reducing project trips to and from the site as well as the overall parking demand. The percent of Internal Capture can be applied to trip generation estimates and parking requirements for individual land uses to account for internal trips made within the site. For this parking demand analysis, residents in the residential portion of the project are expected to make internal trips (i.e. trips to the shopping center) by walking instead of using their vehicles. The Internal Capture of residents to the shopping center was calculated using the National Cooperative Highway Research Program's (NCHRP Report 684) internal trip capture estimation tool. EPD Solutions calculated the percent of trips that would originate at the residential units and be destined to the shopping center during the AM and PM peak hours. The percentage was calculated as 8% for the AM peak hour and 36% for the PM peak hour. As a conservative approach, the 8% AM rate was utilized to estimate the number of walking trips from the residential project that ultimately would not require a parking space. Out of the 208 (according to City Code) or the 159 (according to ITE) parking space requirements, 8% would correspond to a reduction in 16 (City Code) or 12 (ITE) parking spaces. Accounting for the Internal Capture, the net number of required parking spaces would be 192 (Calculated using City Code) or 147 (Calculated using ITE rates).

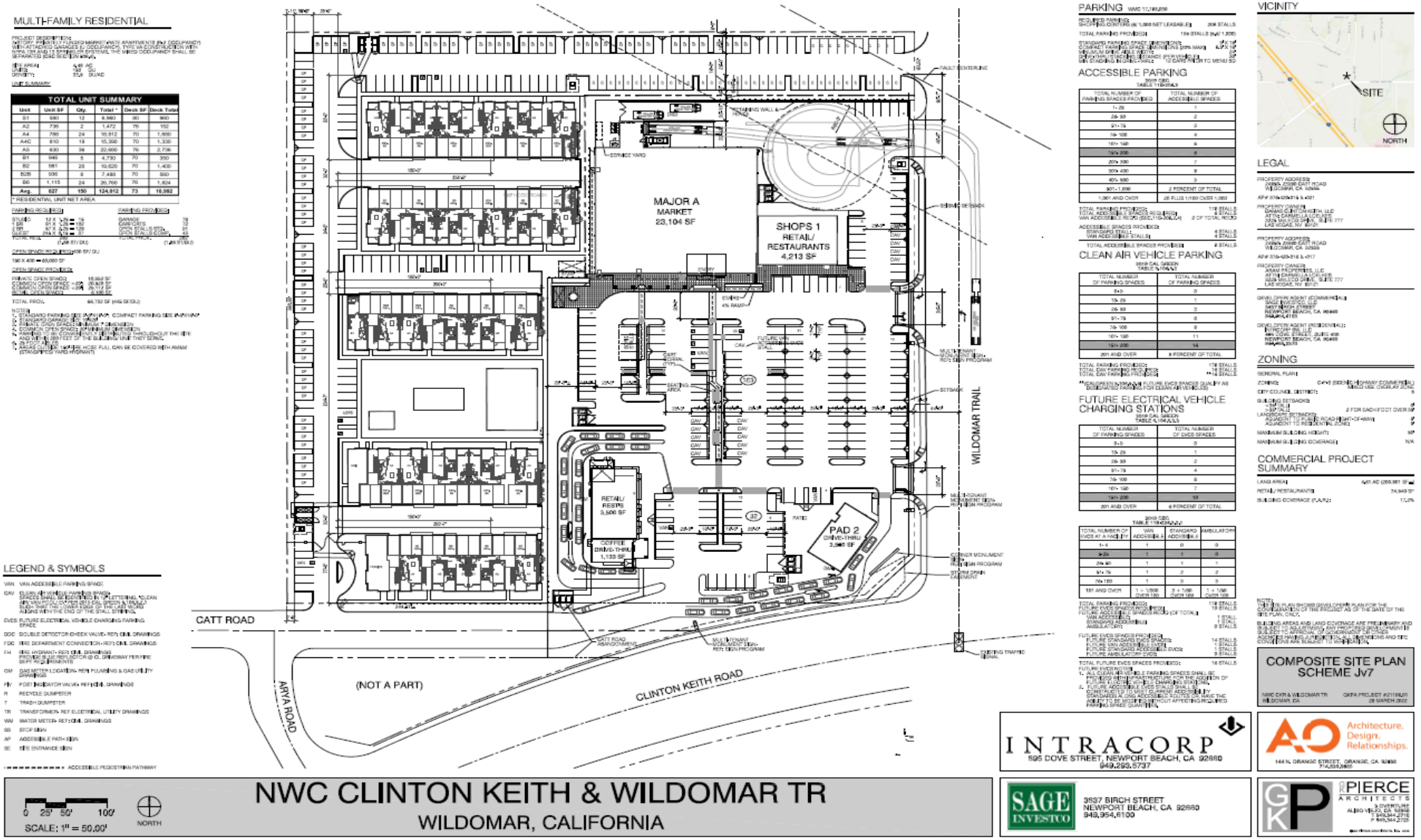
Project Parking Requirements

The parking requirement based on City Zoning Code rates would range from 104 spaces in the City of Menifee to 208 spaces in the City of Wildomar. Although the parking requirements vary widely, it is unlikely that the parking demand of the project would be significantly changed if it was in an adjacent City. As discussed in the previous section, the ITE Parking Rates are based on data collected at similar project sites throughout the country and therefore provide a real-world estimate of the project parking demand. Application of the most conservative ITE rate would yield a parking demand of 159 spaces, which is fewer spaces than the proposed parking supply of 195 spaces. The proposed 195 spaces would also meet the code requirement of the three adjacent Cities of Murrieta, Menifee, and Lake Elsinore. Furthermore, accounting for the Internal Capture as discussed above, the net number of required parking spaces would be 192 (using City Code requirement) or 147 (according to ITE trip rates). Therefore, the proposed 195 spaces would provide adequate parking supply for this shopping center project and would satisfy both ITE and City Code parking space requirements upon accounting for Internal Capture.

If you have any questions about this analysis, please contact me at (949) 794-1186 or meghan@epdsolutions.com.

Attachments: Project Site Plan
NCHRP Internal Capture Calculation

Figure 1: Project Site Plan



NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Wildomar Shopping Center	**Organization:**	EPD Solutions, Inc.
Project Location:	NWC Clinton Keith Rd & Wildomar Tr	**Performed By:**	Hashem Basrawi
Scenario Description:	Residential Trips to Shopping Center	**Date:**	4/5/2022
Analysis Year:	2022	**Checked By:**	Meghan Macias, TE
Analysis Period:	**AM Street Peak Hour**	**Date:**	4/8/2022

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				83	49	34
Restaurant				247	127	120
Cinema/Entertainment				0		
Residential				56	13	43
Hotel				0		
All Other Land Uses[2]				0		
				386	189	197

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		4	0	0	0
Restaurant	0	4		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	9	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	386	189	197
Internal Capture Percentage	9%	10%	9%
External Vehicle-Trips[5]	350	171	179
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	8%	12%
Restaurant	10%	4%
Cinema/Entertainment	N/A	N/A
Residential	8%	21%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Wildomar Shopping Center
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	49	49	1.00	34	34
Restaurant	1.00	127	127	1.00	120	120
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	13	13	1.00	43	43
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	10		4	0	5	0
Restaurant	37	17		0	5	4
Cinema/Entertainment	0	0	0		0	0
Residential	1	0	9	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		16	29	0	0	0
Retail	0		64	0	0	0
Restaurant	0	4		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	8	25	0		0
Hotel	0	2	8	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	4	45	49	45	0	0
Restaurant	13	114	127	114	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	12	13	12	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	4	30	34	30	0	0
Restaurant	5	115	120	115	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	9	34	43	34	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Wildomar Shopping Center	**Organization:**	EPD Solutions, Inc.
Project Location:	NWC Clinton Keith Rd & Wildomar Tr	**Performed By:**	Hashem Basrawi
Scenario Description:	Residential Trips to Shopping Center	**Date:**	4/5/2022
Analysis Year:	2022	**Checked By:**	Meghan Macias, TE
Analysis Period:	**PM Street Peak Hour**	**Date:**	4/8/2022

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				249	124	125
Restaurant				160	85	75
Cinema/Entertainment				0		
Residential				59	23	36
Hotel				0		
All Other Land Uses[2]				0		
				468	232	236

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		25	0	11	0
Restaurant	0	31		0	4	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	12	8	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	468	232	236
Internal Capture Percentage	39%	39%	39%
External Vehicle-Trips[5]	286	141	145
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	35%	29%
Restaurant	39%	47%
Cinema/Entertainment	N/A	N/A
Residential	65%	56%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Wildomar Shopping Center
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	0	0	1.00	0	0
Retail	1.00	124	124	1.00	125	125
Restaurant	1.00	85	85	1.00	75	75
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	23	23	1.00	36	36
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	3		36	5	33	6
Restaurant	2	31		6	14	5
Cinema/Entertainment	0	0	0		0	0
Residential	1	15	8	0		1
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		10	2	0	1	0
Retail	0		25	0	11	0
Restaurant	0	62		0	4	0
Cinema/Entertainment	0	5	3		1	0
Residential	0	12	12	0		0
Hotel	0	2	4	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	43	81	124	81	0	0
Restaurant	33	52	85	52	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	15	8	23	8	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	36	89	125	89	0	0
Restaurant	35	40	75	40	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	20	16	36	16	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

Sage Investco, LLC
3837 Birch Street | Newport Beach, CA 92660
Phone: (949) 954-6100

April 12 2022

Matthew Bassi
Planning Director
City of Wildomar
23873 Clinton Keith Road
Suite #201
Wildomar, CA 92595

Re Wildomar Crossroads PA21-0145—Justification for a reduction in the current code for parking on the commercial property

Dear Matt:

Should the city not approve the parking demand analysis we had done as justification for a reduction in parking requirements it will result in the project having about 2200sf less retail space which would result in a potential reduction in value by as much as $750,000 which the project projections currently include and are needed to support the economic viability of the project

Ralph W. Deppisch
Sage Investco—Director of Development
4340 Von Karman Ave.--#110
Newport Beach, CA. 92660
direct -949-705-0426
cell -949-466-2875
Ralph@sageinvestco.com

Refer to Ceneral Land Use & Zoning Comments The proposed design is considered as a Farm Chic Design and the concerns are itemize below itemized below:

C-P-S (Scenic Highway Commercial) / Mixed Use Overlay Zone Standard	Chapter and Section Number	Requirement and City Comment	Applies?	Compliance Notes and Comment Response
STYLE DESCRIPTION	B.1	HIGH PITCHED ROOF	Y	
	B.1	ACCENTUATED VERTICAL ORIENTATION	Y	
	B.1	HORIZONTAL AND VERTICAL WOOD BOARD AND BATTEN SIDING	Y	
	B.1	MULTIPLE ROOF PLANES	Y	
	B.1	DORMERS	N	We believe dormers are part of traditional detail which we prefer to eliminate in favour of a clean and modern interpretation of Farm Chic design.
	B.1	FIXED AWNING WITHOUT SIDES	Y	
		CASEMENT WINDOWS WITH MUNTINS	Y	
FORM & MASSING			Y	
	B.2.1	Multi-story with medium- to high pitched roof forms accentuating vertical orientation	Y	
	B.2.2	Incorporate farm and ranch forms inspired by barns, silos, sheds, tank houses and granary towers	Y	
	B.2.3	Multiple gable roof planes	Y	
	B.2.4	Covered porches and awnings break up volumes between lower and upper floors	Y	
ROOF DESIGNS	B.3.1	Medium to high-pitched (minimum 6:12 slope)	Y	8:12
	B.3.2	Front and/or side facing gables	Y	
	B.3.3	Variation in heights and/or planes	Y	
	B.3.4	Asphalt shingle and metal roofs	Y	

WALLS & WINDOW DESIGNS	B.4.1	Utilize board and batten siding, corrugated panels to give texture and variation to exterior walls	Y	
	B.4.2	Minimal molding around window and door openings	Y	
	B.4.3	Double hung or casement windows with muntins	Y	
	B.4.4	Contrast color of window sash with color of the body of the building	N	The color scheme has been updated to give the color and the distinctive look of black and white composition, with a primarily white mass with crisp black lines of the window, fascia and black roof shingles.
MATERIALS & COLORS	B.5.1	Unadorned materials: metal, wood, masonry	Y	
	B.5.2	Neutral or muted colors should be predominant	Y	
	B.5.3	Monochrome accents of doors, windows or architectural features encouraged	Y	
	B.5.4	Stucco prohibited	N	Stucco has been added as a creative contrast to distinguish the forms applied to siding and board and batten.
DECORATIVE ACCENTS & DETAILS	B.6.1	Wall-mounted gooseneck lights	Y	
	B.6.2	Fixed wood or metal awning without sides	Y	
	B.6.3	Porches with ceiling fans	N	We believe we applied stronger details than ceiling fans to reinforce Farm Chic design. We added a silo to the club house to reinforce the farmhouse chic look additionally the unexpected contrast of white mass with black trims will add a very unique look to the project.
	B.6.4	Exposed rafter tails and brackets	N	We pursued a more modern and refined architectural detail with cleaner and tighter lines.
	B.6.5	Dormers	N	We do not believe dormers would add to the architecture that we are proposing here. The overall concept is one of very elegant and minimal farmhouse forms and meniscal details.

Please include the design guideline chapter and section number in front of all standards in your next submittal, eg E.2.2

A column referring to the chapter and section number has been added to this Multifamily Design Standards Checklist

GENERAL BUILDING DESIGN STANDARDS	E.2.1	Duplexes, triplexes, and fourplexes abutting single-family neighborhoods shall include individual front doors and interior stairs (when stairs are needed).	Y	
	E.2.4	Trim surrounds shall be provided at all exterior window and door openings. In lieu of exterior window trim, windows can be recessed from wall plane by a minimum of three inches.	Y	
	E.2.6	Front doors shall orient towards and be visible from the street.	Y	
	E.2.7	Building front elevations shall emphasize entries, porches and other living areas. No garages shall be forward of architecture and no more than 50% of front facing garages shall be located within 20' of the property line.	Y	
	E.3.2	Buildings shall have minor massing breaks at least every 50 feet along the street frontage, through the use of varying setbacks, building entries and recesses, or structural bays. Minor breaks shall be a minimum of 12 inches deep and four feet wide and extend the full height of the building	Y	
	E.3.3	Rooflines shall be vertically articulated at least every 50 feet along the street frontage, through the use of architectural elements such as parapets, varying cornices, reveals, clerestory windows, and varying roof height and/or form.	Y	
	F.2.1	Building entries shall face the primary public street with pedestrian access provided from sidewalks to all building entries, parking areas, and publicly accessible open spaces. For larger sites with multiple buildings, building entries may also be oriented to face internal open spaces, paseos, and recreation amenities	Y	

	F.2.2	A minimum of 60% of the street frontage shall be devoted to buildings located between the minimum and maximum front setback lines. The remaining 40% may be devoted to parking.	Y	Provided 62% Building Frontage. This Building Frontage measurement is provided in the Site Plan on sheet 3.
	F.2.3	Parking areas, covered and uncovered, shall be screened from public street frontages. Screening may be accomplished through building placement, landscaping, fencing, or some combination thereof. Landscaping for screening purposes shall be no less than four feet tall. Fencing shall comply with the WMC.	Y	
	F.2.4	For multifamily projects located across the street from a single-family residential zone, parking lot areas and carports shall not be located along the single-family neighborhood street frontages.	Y	
	F.2.5	A minimum of one window from each residential unit shall be located to overlook a landscaped private or common open space area.	Y	
	F.2.6	If adjacent to a single-family residential zone, windows, balconies or similar openings shall be oriented so as not to have a direct line-of sight into adjacent units or onto private patios or backyards adjoining the property line. This can be accomplished through: stepbacks of upper stories; window placement; use of clerestory windows, glass block or opaque glass; or mature landscaping within the rear or side setback areas.	Y	
	F.2.7	Controlled entrances to parking facilities (gates, doors, etc.) shall be located a minimum of 18 feet from the back of sidewalk, in order to accommodate a minimum of one vehicle entering the facility.	Y	

	F.2.8	Ground floor residential fronting or siding onto an arterial roadway shall be elevated at least 21 inches above the finished grade of the sidewalk	N/A	
	F.4.1	Minimum Requirements for Recreational-Leisure Areas (RLA):		Per the letter submitted to the City of Wildomar Planning Director dated 3/16/2022, and the confirmation email from the City of Wildomar Planning Director dated 4/11/2022, it is agreed upon that residential open space is no longer deficient and will be accepted by the City.
	F.4.1.1	400 square feet per dwelling unit	Y	
	F.4.1.2	Private areas:7 feet	Y	
	F.4.1.2	Common areas: 20 feet	N	
	F.4.1.2	Pedestrian walkway width: 6 feet	N	Per the letter submitted to the City of Wildomar Planning Director dated 3/16/2022, and the confirmation email from the City of Wildomar Planning Director dated 4/11/2022, it is agreed upon that residential open space is no longer deficient and will be accepted by the City.
	F.4.1.2	Courtyard internal to a project, or enclosed on at least three sides: 40 feet	Y	
	F.4.1.4	One hundred one (101) or more dwelling units: minimum of two (2) spaces, forty (40) feet minimum dimension (three thousand two hundred square feet total).	N	one in 42' X 36' (N) second one in 110 X 188' (Y)

Appendix 15

Wildomar Crossroads Noise Impact Analysis

Wildomar Crossroads

NOISE AND VIBRATION IMPACT ANALYSIS

CITY OF WILDOMAR

PREPARED BY:

Bill Lawson, PE, INCE
blawson@urbanxroads.com
(949) 584-3148

APRIL 18, 2022

TABLE OF CONTENTS

TABLE OF CONTENTS III
APPENDICES IV
LIST OF EXHIBITS V
LIST OF TABLES V
LIST OF ABBREVIATED TERMS VI
EXECUTIVE SUMMARY 1
1 INTRODUCTION 3
1.1 Site Location 3
1.2 Project Description 3
2 FUNDAMENTALS 7
2.1 Range of Noise 7
2.2 Noise Descriptors 8
2.3 Sound Propagation 8
2.4 Noise Control 9
2.5 Noise Barrier Attenuation 9
2.6 Land Use Compatibility With Noise 10
2.7 Community Response to Noise 10
2.8 Vibration 11
3 REGULATORY SETTING 13
3.1 State of California Noise Requirements 13
3.2 City of Wildomar General Plan Noise Element 14
3.3 Stationary source Noise Standards 17
3.4 Construction Noise Standards 17
3.5 Construction Vibration Standards 18
4 SIGNIFICANCE CRITERIA 19
4.1 Noise Level Increases (Threshold A) 19
4.2 Vibration (Threshold B) 20
4.3 CEQA Guidelines Not Further Analyzed (Threshold C) 20
4.4 Significance Criteria Summary 21
5 EXISTING NOISE LEVEL MEASUREMENTS 23
5.1 Measurement Procedure and Criteria 23
5.2 Noise Measurement Locations 23
5.3 Noise Measurement Results 24
6 TRAFFIC NOISE METHODS AND PROCEDURES 27
6.1 FHWA Traffic Noise Prediction Model 27
7 OFF-SITE TRAFFIC NOISE ANALYSIS 31
7.1 Noise Contours 31
7.2 Existing Project Traffic Noise Level Increases 33
7.2 Cumulative Project Traffic Noise Level Increases 33
8 ON-SITE TRAFFIC NOISE ANALYSIS 35
8.1 Exterior Noise Analysis 35

8.2 Interior Noise Analysis 37
9 OFF-SITE RECEIVER LOCATIONS 39
10 STATIONARY SOURCE NOISE IMPACTS 41
10.1 Stationary source Noise Sources 41
10.2 Reference Noise Levels 41
10.3 CadnaA Noise Prediction Model 45
10.4 Project Stationary sourceStationary source Noise Levels 45
10.5 Project Stationary source Noise Level Compliance 46
10.6 Project Stationary source Noise Level Increases 47
11 CONSTRUCTION IMPACTS 49
11.1 Construction Noise Levels 49
11.2 Construction Reference Noise Levels 49
11.3 Construction Noise Analysis 52
11.4 Construction Noise Level Compliance 53
11.5 Construction Vibration Analysis 53
12 REFERENCES 57
13 CERTIFICATION 59

APPENDICES

APPENDIX 3.1: CITY OF WILDOMAR MUNICIPAL CODE
APPENDIX 5.1: STUDY AREA PHOTOS
APPENDIX 5.2: NOISE LEVEL MEASUREMENT WORKSHEETS
APPENDIX 7.1: OFF-SITE TRAFFIC NOISE LEVEL CALCULATIONS
APPENDIX 8.1: ON-SITE TRAFFIC NOISE LEVEL CALCULATIONS
APPENDIX 10.1: CADNAA STATIONARY SOURCE NOISE MODEL INPUTS
APPENDIX 11.1: CADNAA CONSTRUCTION NOISE MODEL INPUTS

LIST OF EXHIBITS

EXHIBIT 1-A: LOCATION MAP 4
EXHIBIT 1-B: SITE PLAN 5
EXHIBIT 2-A: TYPICAL NOISE LEVELS 7
EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION 10
EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION 12
EXHIBIT 3-A: LAND USE COMPATIBILITY FOR COMMUNITY NOISE EXPOSURE 16
EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS 25
EXHIBIT 8-A: ON-SITE RECEIVER LOCATIONS 36
EXHIBIT 9-A: OFF-SITE RECEIVER LOCATIONS 40
EXHIBIT 10-A: STATIONARY SOURCE NOISE LOCATIONS 42
EXHIBIT 11-A: TYPICAL CONSTRUCTION NOISE SOURCE LOCATIONS 51

LIST OF TABLES

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS 1
TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY 21
TABLE 5-1: AMBIENT NOISE LEVEL MEASUREMENTS 24
TABLE 6-1: OFF-SITE ROADWAY PARAMETERS 28
TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES 28
TABLE 6-3: TIME OF DAY VEHICLE SPLITS 28
TABLE 6-4: TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX) 29
TABLE 6-5: ON-SITE ROADWAY PARAMETERS 29
TABLE 7-1: EXISTING PROJECT CONTOURS 31
TABLE 7-2: EXISTING PLUS PROJECT CONTOURS 32
TABLE 7-3: CUMULATIVE CONTOURS 32
TABLE 7-4: CUMULATIVE PLUS PROJECT CONTOURS 32
TABLE 7-5: EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES 33
TABLE 7-6: CUMULATIVE PROJECT TRAFFIC NOISE LEVEL INCREASES 34
TABLE 8-1: EXTERIOR NOISE LEVELS 35
TABLE 8-2: INTERIOR NOISE LEVELS (CNEL) 37
TABLE 10-1: REFERENCE NOISE LEVEL MEASUREMENTS 43
TABLE 10-2: DAYTIME PROJECT STATIONARY SOURCE NOISE LEVELS 46
TABLE 10-3: NIGHTTIME PROJECT STATIONARY SOURCE NOISE LEVELS 46
TABLE 10-4: STATIONARY SOURCE NOISE LEVEL COMPLIANCE 47
TABLE 10-5: DAYTIME PROJECT STATIONARY SOURCE NOISE LEVEL INCREASES 48
TABLE 10-6: NIGHTTIME PROJECT STATIONARY SOURCE NOISE LEVEL INCREASES 48
TABLE 11-1: CONSTRUCTION REFERENCE NOISE LEVELS 52
TABLE 11-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY 53
TABLE 11-3: CONSTRUCTION NOISE LEVEL COMPLIANCE 53
TABLE 11-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT 54
TABLE 11-5: PROJECT CONSTRUCTION VIBRATION LEVELS 55

LIST OF ABBREVIATED TERMS

(1)	Reference
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
mph	Miles per hour
PPV	Peak Particle Velocity
Project	Wildomar Crossroads
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the noise exposure and the necessary noise mitigation measures for the proposed Wildomar Crossroads development ("Project"). The Project site is located on the northwest corner of Clinton Keith Road and Wildomar Trail in the City of Wildomar. The Project as proposed consists of a neighborhood commercial retail development with 150 multi-family residential units. This noise study has been prepared to satisfy applicable City of Wildomar noise standards and significance criteria based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

The results of this Noise and Vibration Impact Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	*Less Than Significant*	-
On-Site Traffic Noise	8	*Less Than Significant*	-
Stationary source Noise	10	*Less Than Significant*	-
Construction Noise	11	*Less Than Significant*	-
Construction Vibration		*Less Than Significant*	-

This page intentionally left blank

1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Wildomar Crossroads ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the regulatory setting, presents the study methods and procedures for transportation related CNEL traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source stationary source noise and short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The proposed Project is located on the northwest corner of Clinton Keith Road and Wildomar Trail, as shown on Exhibit 1-A. The project site has a General Plan Land Use designation of Mixed-Use Planning Area (MUPA) and a zoning designation of Scenic Highway Commercial (C-P-S) with a Mixed-Use Overlay Zone. The area surrounding the Project Site consists of existing single-family residential homes to the north and west, commercial land use and the Oak Springs Ranch Apartment community located to the south, and commercial land uses east of the Project site.

1.2 PROJECT DESCRIPTION

The proposed Project is planned to consist of the following land uses as shown on Exhibit 1-B

- 23,104 square feet (sf) of supermarket land use
- 5,087 sf shops
- 2,750 sf of fast-food restaurant with drive-through window
- 1,133 sf of coffee/donut shop with drive-through window
- 3,348 sf of high-turnover (sit-down) restaurant
- 150 multi-family residential units in 3-story apartment buildings

EXHIBIT 1-A: LOCATION MAP

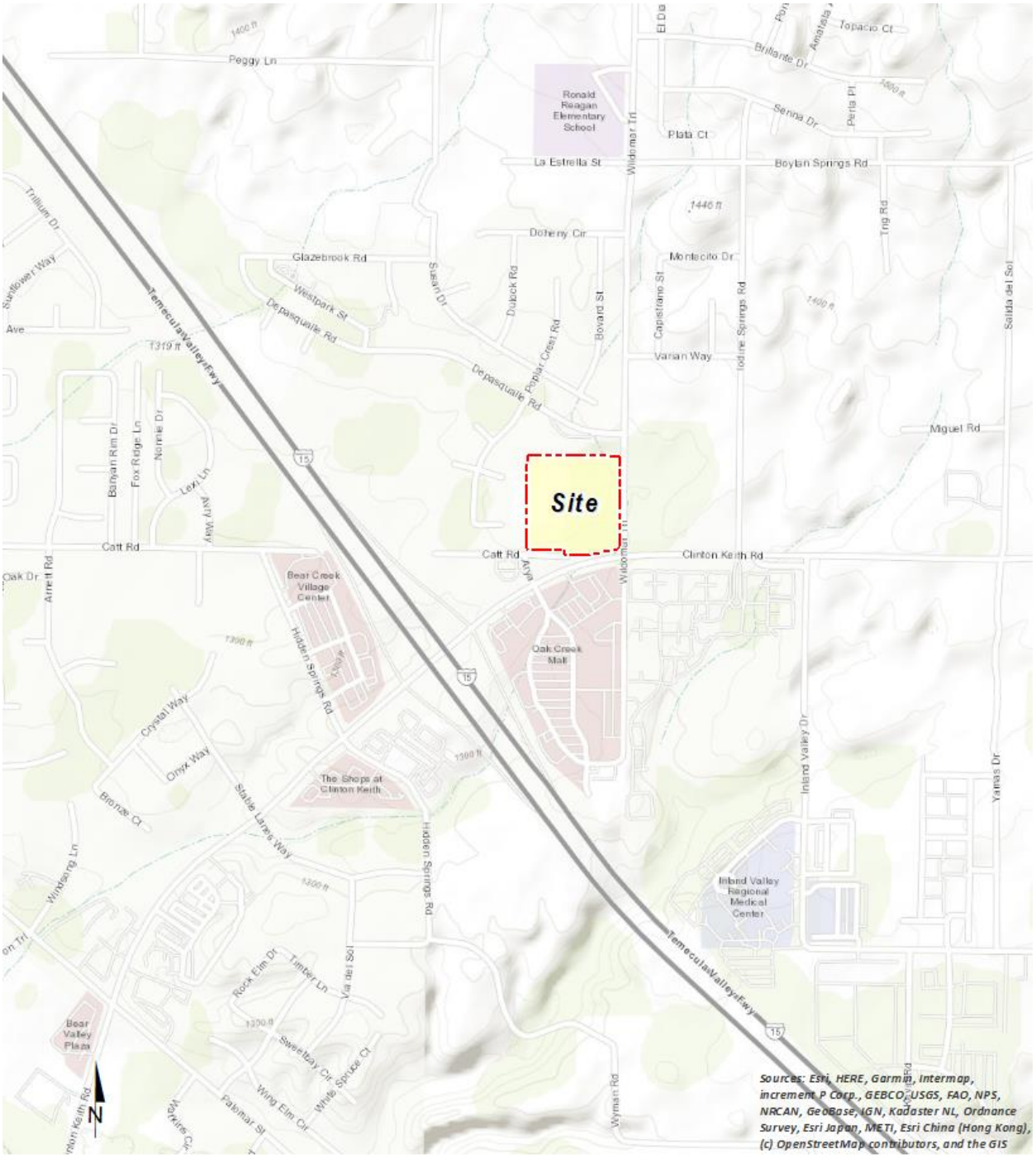
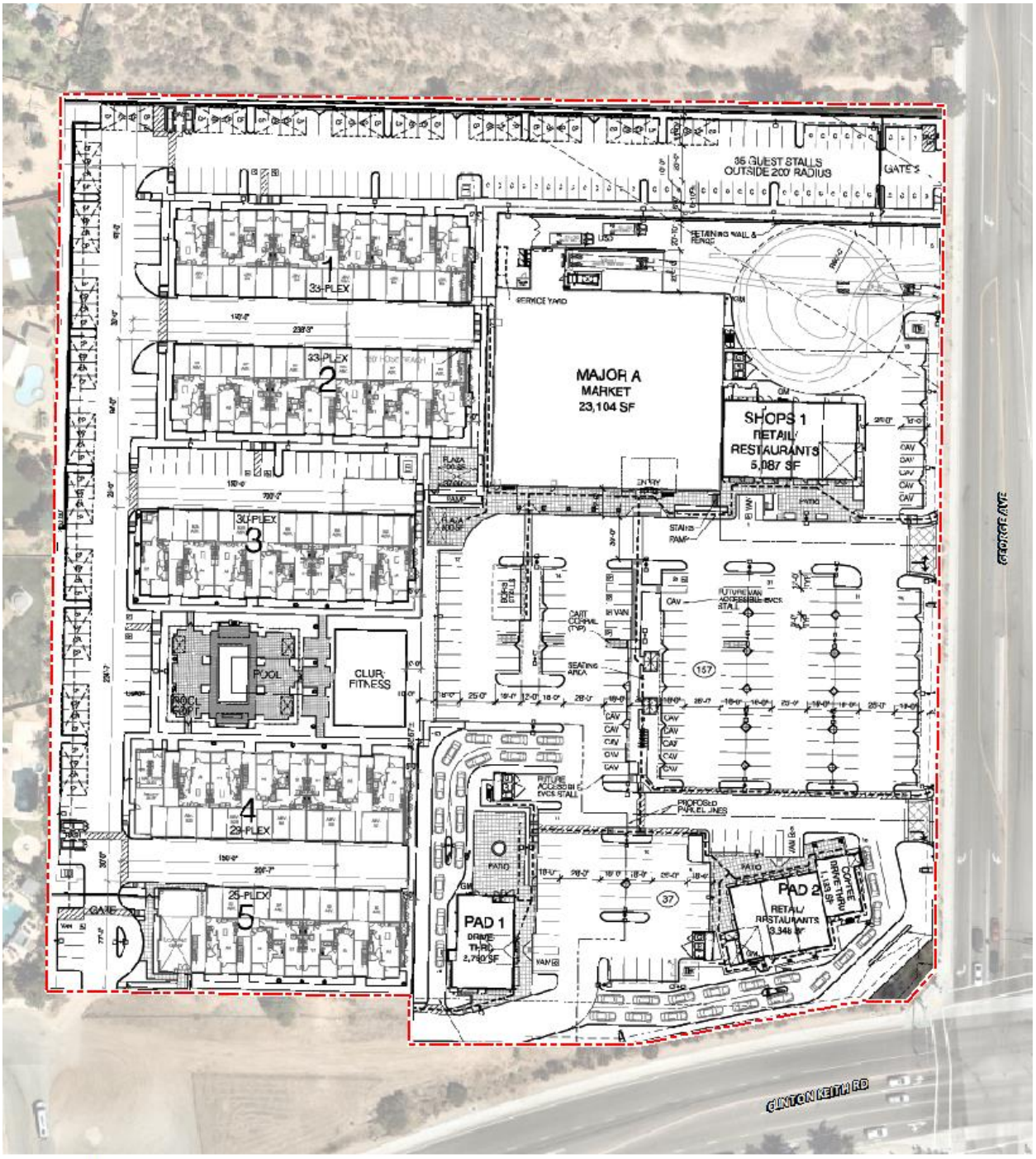


EXHIBIT 1-B: SITE PLAN



LEGEND:

Site Boundary

This page intentionally left blank

2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (2) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA

at approximately 1,000 feet, which can cause serious discomfort. (3) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used metric is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Wildomar relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (2)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually

sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (4)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (2)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of-sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must block the line-of-sight path of sound from the noise source.

2.6 LAND USE COMPATIBILITY WITH NOISE

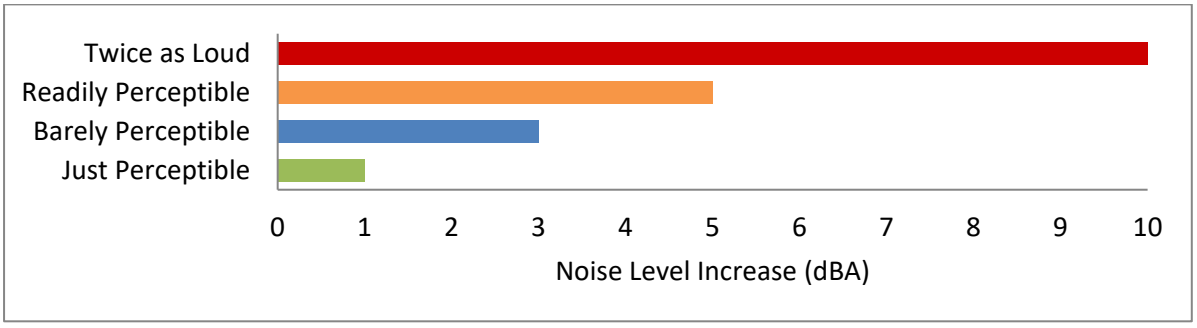
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

2.7 COMMUNITY RESPONSE TO NOISE

Approximately sixteen percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments. (7 pp. 8-6) Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Surveys have shown that community response to noise varies from no reaction to vigorous action for newly introduced noises averaging from 10 dB below existing to 25 dB above existing. (8) According to research originally published in the Noise Effects Handbook (7), the percentage of high annoyance ranges from approximately 0 percent at 45 dB or less, 10 percent are highly annoyed around 60 dB, and increases rapidly to approximately 70 percent being highly annoyed at approximately 85 dB or greater. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (4)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



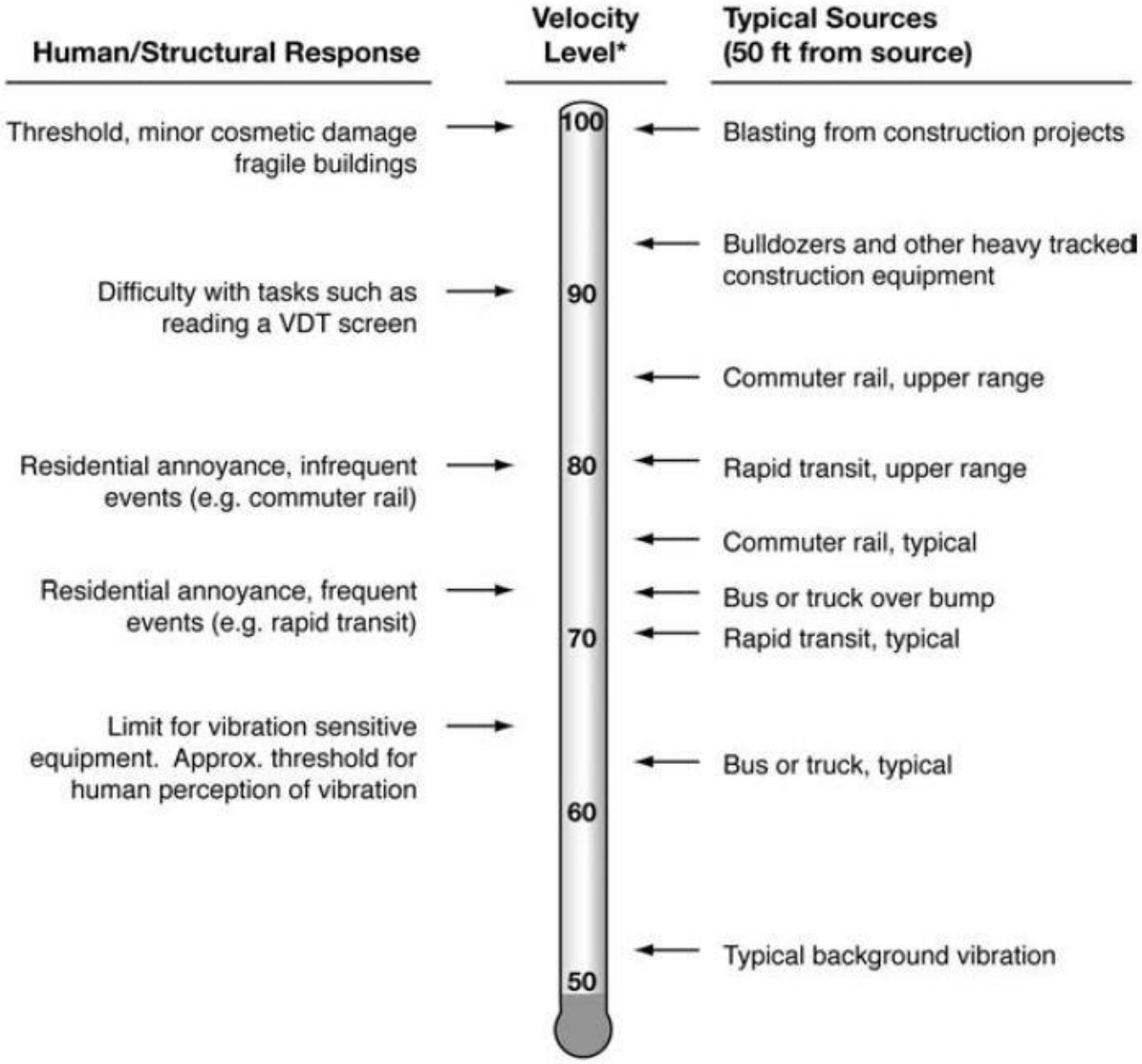
2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Impact Assessment Manual* (8) , vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings but is not always suitable for evaluating human response (annoyance) because it takes some time for the human body to respond to vibration signals. Instead, the human body responds to average vibration amplitude often described as the root mean square (RMS). The RMS amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. Decibel notation (VdB) serves to reduce the range of numbers used to describe human response to vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receivers for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration-sensitive equipment and/or activities.

The background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration.

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (9) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.1.1 RESIDENTIAL CONSTRUCTION

The State of California's noise insulation standards for all residential units are codified in the California Code of Regulations (CCR), Title 24, Building Standards Administrative Code, Section 1206 to 1207.11.2. These noise standards are applied to new construction that contains dwelling units or sleeping units, such as residential and hotel or motel uses, in California for controlling interior noise levels resulting from exterior noise sources. For new buildings, the acceptable interior noise limit is 45 dBA CNEL in habitable rooms (10).

3.1.2 NON-RESIDENTIAL CONSTRUCTION

The State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (11) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other noise source. If the development falls within an airport or freeway 65 dBA CNEL noise contour, buildings shall be construction to provide an interior noise level environment attributable to exterior sources that does not exceed an hourly equivalent level of 50 dBA L_{eq} in occupied areas during any hour of operation.

3.2 CITY OF WILDOMAR GENERAL PLAN NOISE ELEMENT

The City of Wildomar was incorporated as a City in October of 2008. Through the incorporation process, the City adopted the Riverside County General Plan Noise Element to control and abate environmental noise, and to protect the citizens of the City of Wildomar from excessive exposure to noise. (12) The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports and railroads. In addition, the Noise Element identifies several polices to minimize the impacts of excessive noise levels throughout the community and establishes noise level requirements for all land uses. To protect City of Wildomar residents from excessive noise, the Noise Element contains the following policies related to the Project:

N 1.1 Protect noise-sensitive land uses from high levels of noise by restricting noise-producing land uses from these areas. If the noise-producing land use cannot be relocated, then noise buffers such as setbacks, landscaping, or block walls shall be used.

N 1.3 Consider the following uses noise-sensitive and discourage these uses in areas in excess of 65 CNEL:

- *Schools*
- *Hospitals*
- *Rest Homes*
- *Long Term Care Facilities*
- *Mental Care Facilities*
- *Residential Uses*
- *Libraries*
- *Passive Recreation Uses*
- *Places of Worship*

N 1.5 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors, and noise-sensitive uses of Riverside County.

N 4.1 Prohibit facility-related noise, received by any sensitive use, from exceeding the following worst-case noise levels:

a. 45 dBA 10-minute L_{eq} between 10:00 p.m. and 7:00 a.m.;

b. 65 dBA 10-minute L_{eq} between 7:00 a.m. and 10:00 p.m.

N 12.1 Minimize the impacts of construction noise on adjacent uses within acceptable standards.

N 12.2 Ensure that construction activities are regulated to establish hours of operation in order to prevent and/or mitigate the generation of excessive or adverse impacts on surrounding areas.

N 12.3 Condition subdivision approval adjacent to developed/occupied noise-sensitive land uses (see policy N 1.3) by requiring the developer to submit a construction-related noise mitigation plan to the [County] for review and approval prior to issuance of a grading permit. The plan must depict the location of construction equipment and how the noise from this equipment will be mitigated during construction of this project, through the use of such methods as:

i. Temporary noise attenuation fences;

ii. Preferential location and equipment; and

iii. Use of current noise suppression technology and equipment.

N 13.1 Enforce the California Building Standards that sets standards for building construction to mitigate interior noise levels to the tolerable 45 CNEL limit. These standards are utilized

in conjunction with the Uniform Building Code by the County's Building Department to ensure that noise protection is provided to the public. Some design features may include extra-dense insulation, double-paned windows, and dense construction materials.

N 15.3 Prohibit exposure of residential dwellings to perceptible ground vibration from passing trains as perceived at the ground or second floor. Perceptible motion shall be presumed to be a motion velocity of 0.01 inches/second over a range of 1 to 100 Hz.

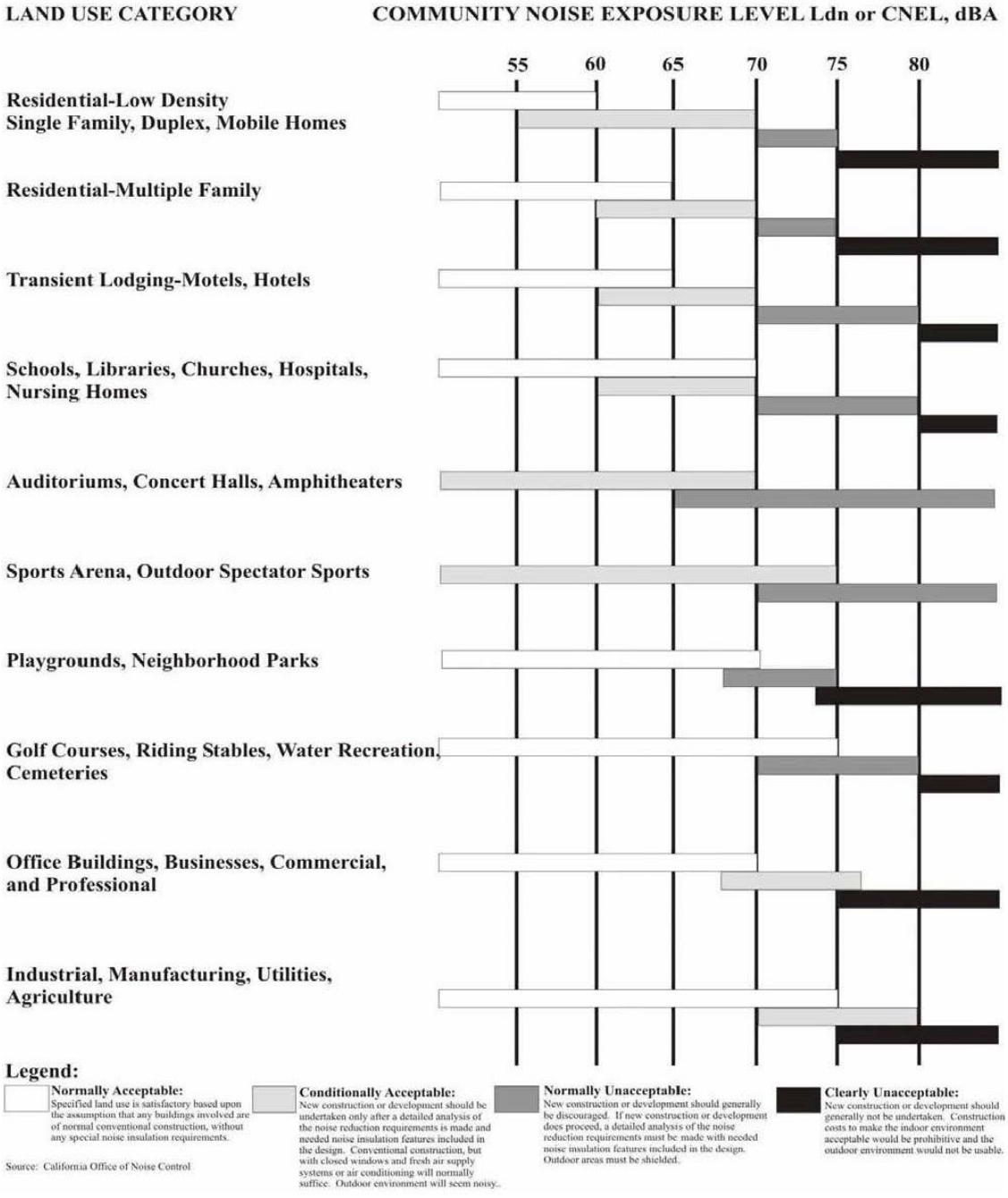
To ensure noise-sensitive land uses are protected from high levels of noise (N 1.1), Table N-1 of the Noise Element identifies guidelines to evaluate proposed developments based on exterior and interior noise level limits for land uses and requires a noise analysis to determine needed mitigation measures if necessary. The Noise Element identifies residential use as a noise-sensitive land use (N 1.3) and discourages new development in areas with transportation related levels of 65 dBA CNEL or greater existing ambient noise levels. In addition, the City of Wildomar had adopted an interior noise level limit of 45 dBA CNEL (N 13.1).

Policy N 4.1 of the Noise Element sets a stationary-source exterior noise limit to not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. To prevent high levels of construction noise from impacting noise-sensitive land uses, policies N 12.1 through 12.3 identify construction noise mitigation requirements for new development located near existing noise-sensitive land uses. Policy 15.3 establishes the vibration perception threshold for rail-related vibration levels, used in this analysis as a threshold for determining potential vibration impacts due to Project construction. (12)

3.2.1 LAND USE COMPATIBILITY GUIDELINES

The noise criteria identified in the City of Wildomar Noise Element (Table N-1) are guidelines to evaluate the land use compatibility of transportation related noise. The compatibility criteria, shown on Exhibit 3-A, provides the County with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels. The *Land Use Compatibility for Community Noise Exposure* matrix describes categories of compatibility and not specific noise standards. The Project's multi-family residential land use is considered *normally acceptable* with exterior noise levels below 65 dBA CNEL, *conditionally acceptable* with exterior noise levels of up to 70 dBA CNEL, and *normally unacceptable* with exterior noise levels of up to 75 dBA CNEL. The Project's commercial retail land use is considered *normally acceptable* with exterior noise levels below 70 dBA CNEL, *conditionally acceptable* with exterior noise levels up to 77 dBA CNEL and *clearly unacceptable* with exterior noise levels above up to 75 dBA CNEL.

EXHIBIT 3-A: LAND USE COMPATIBILITY FOR COMMUNITY NOISE EXPOSURE



Source: City of Wildomar General Plan Noise Element, Table N-1.

3.3 STATIONARY SOURCE NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as Wildomar Crossroads Project, stationary-source (stationary source) noise such as the expected loading dock activity, pool/spa activity, outdoor seating activity, trash enclosure activity, roof-top air conditioning units, parking lot activity, shopping cart corrals and drive-thru speakerphones are typically evaluated against standards established under a jurisdiction's Municipal Code.

However, the City of Wildomar Noise Ordinance included in the Municipal Code (Chapter 9.48) indicates that *this chapter is not intended to establish thresholds of significance for the purpose of any analysis required by CEQA and no such thresholds are established*. (13) The City of Wildomar Municipal Code is included in Appendix 3.1. Therefore, potential Project related stationary-source (stationary source) noise impacts are limited to the absolute noise levels outlined in the General Plan and the generation of a substantial temporary or permanent relative increase in the ambient noise levels. Policy N 4.1 of the City of Wildomar General Plan Noise Element sets a stationary-source average L_{eq} exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. (12)

3.4 CONSTRUCTION NOISE STANDARDS

To control noise impacts associated with the construction of the proposed Project, the City of Wildomar has established limits to the hours of operation. Section 9.48.020 (I) of the Noise Regulation ordinance indicates that *noise associated with any private construction activity located within one-quarter of a mile from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May*. (13) However, neither the City of Wildomar General Plan nor Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* is used for analysis of daytime construction impacts, as discussed below.

According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use. (8 p. 179)

3.5 CONSTRUCTION VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. (8)

To analyze vibration impacts originating from the operation and construction of Wildomar Crossroads, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Wildomar does not identify specific vibration level limits. Therefore, for analysis purposes, the Caltrans *Transportation and Construction Vibration Guidance Manual*, (15 p. 38) Table 19, vibration damage are used in this noise study to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).

4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

A. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

B. Generation of excessive ground-borne vibration or ground-borne noise levels?

C. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach *recognizes that there is no single noise increase that renders the noise impact significant.* (16) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment.

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise (FICON) (17) developed guidance to be used for the assessment of project-generated increases in noise levels that consider the ambient noise level. The FICON recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by aircraft noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, these recommendations are often used in environmental noise impact assessments involving the use of cumulative noise exposure metrics, such as the average-daily noise level (CNEL) and equivalent continuous noise level (L_{eq}). The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (18 p. 2_48).

Policy N 4.1 of the City of Wildomar General Plan Noise Element sets a stationary-source average L_{eq} exterior noise limit not to be exceeded for a cumulative period of more than ten minutes in any hour of 65 dBA L_{eq} for daytime hours of 7:00 a.m. to 10:00 p.m., and 45 dBA L_{eq} during the noise-sensitive nighttime hours of 10:00 p.m. to 7:00 a.m. (12)

In addition, since neither the City of Wildomar General Plan or County Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes, a numerical construction threshold based on Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual is used for analysis of daytime construction impacts. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use. (8 p. 179)

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.6, the vibration impacts originating from the construction of the Wildomar Crossroads, vibration-generating activities are appropriately evaluated using the Caltrans vibration damage thresholds to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest airport is the French Valley Airport located over 6 miles east of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant,* and no further noise analysis is conducted in relation to Appendix G to the CEQA Guidelines, Noise Threshold C.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Condition(s)	Significance Criteria	
		Daytime	**Nighttime**
Off-Site Traffic[1]	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase	
	If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase	
	If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL Project increase	
On-Site Traffic	Exterior Noise Compatibility Criteria[2]	See Exhibit 3-A	
	Interior Noise Level Standard[3]	45 dBA CNEL	
Stationary-Source	Exterior Noise Level Standards[4]	65 dBA L_{eq}	45 dBA L_{eq}
	If ambient is < 60 dBA Leq[1]	≥ 5 dBA L_{eq} Project increase	
	If ambient is 60 - 65 dBA Leq[1]	≥ 3 dBA L_{eq} Project increase	
	If ambient is > 65 dBA Leq[1]	≥ 1.5 dBA L_{eq} Project increase	
Construction	Noise Level Threshold[5]	80 dBA L_{eq}	
	Vibration Level Threshold[6]	0.3 PPV (in/sec)	

[1] FICON, 1992.
[2] City of Wildomar General Plan Land Use Compatibility for Community Noise Exposure, Table N-1 (Exhibit 3-A).
[3] City of Wildomar General Plan Policy N 13.1.
[4] City of Wildomar General Plan Policy N 4.1.
[5] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.
[6] Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

This page intentionally left blank

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at four locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Thursday, December 16, 2021. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the equivalent daytime and nighttime hourly noise levels. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (19)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (2) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (8)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (8) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the equivalent or the hourly energy average sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

TABLE 5-1: AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]	
		Daytime	Nighttime
L1	Located northwest of the Project site near walled off sensitive habitat east of Poplar Crest Road.	54.4	53.3
L2	Located northeast of the Project site near single-family residence at 35925 Susan Drive.	60.4	55.4
L3	Located southeast of the Project site near Oak Springs Ranch at 24055 Clinton Keith Road.	61.7	55.8
L4	Located in the western portion of the Project site near single-family residence at 24900 Catt Road.	50.9	51.7

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the equivalent noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each of the daytime and nighttime hours.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



This page intentionally left blank

6 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with the City of Wildomar *Land Use Compatibility* guidelines, all transportation related noise levels are presented in terms of the 24-hour CNEL's.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (20) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (21) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (22)

This methodology is consistent with the County of Riverside Office of Industrial Hygiene *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures*, which specifically requires the FHWA RD-77-108 model to be used in analysis within the County's jurisdiction. (23)

6.1.1 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site transportation noise impacts. Table 6-1 identifies the 5 off-site study area roadway segments, the distance from the centerline to adjacent receiving land use based on the functional roadway classifications per the City of Wildomar General Plan Circulation Element, and the vehicle speeds. The ADT volumes used in this study are presented on Table 6-2 are based on the *Wildomar Crossroads Traffic Impact Analysis* prepared by EPD Solutions, Inc. for the following traffic conditions:

1. Existing Without Project
2. Existing With Project
3. Cumulative (2024) Without Project
4. Cumulative (2024) With Project

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification[1]	Centerline Distance to Receiving Land Use[2]	Vehicle Speed (mph)
1	Wildomar Tr.	n/o Clinton Keith Rd.	Secondary	50'	45
2	Clinton Keith Rd.	e/o Palomar St.	Urban Arterial	76'	45
3	Clinton Keith Rd.	w/o Arya Rd.	Urban Arterial	76'	45
4	Clinton Keith Rd.	w/o Wildomar Tr.	Urban Arterial	76'	45
5	Clinton Keith Rd.	e/o Wildomar Tr.	Urban Arterial	76'	45

[1] City of Wildomar General Plan Circulation Element
[2] Based upon the right-of-way distances for each roadway classification provided in the General Plan Circulation Element.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

ID	Roadway	Segment	Existing Average Daily Traffic Volumes (ADT)[1]		Cumulative Average Daily Traffic Volumes (ADT)[1]	
			Without Project	With Project	Without Project	With Project
1	Wildomar Tr.	n/o Clinton Keith Rd.	5,160	7,880	15,710	18,430
2	Clinton Keith Rd.	e/o Palomar St.	5,100	5,100	5,140	5,140
3	Clinton Keith Rd.	w/o Arya Rd.	29,200	30,930	48,890	50,620
4	Clinton Keith Rd.	w/o Wildomar Tr.	24,880	25,730	44,210	45,060
5	Clinton Keith Rd.	e/o Wildomar Tr.	24,100	26,270	44,550	46,720

[1] Wildomar Crossroads Traffic Impact Analysis, EPD Solutions, Inc.

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. In addition, the off-site traffic noise analysis is based on a PM peak hour to average daily traffic (peak-to-daily) relationship of 10%. Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits and Table 6-4 presents the traffic flow distributions (vehicle mix) used for this analysis. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks, and heavy trucks for input into the FHWA noise prediction model.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Vehicle Type	Time of Day Splits[1]			Total of Time of Day Splits
	Daytime	Evening	Nighttime	
Autos	75.55%	13.96%	10.49%	100.00%
Medium Trucks	48.92%	2.17%	48.91%	100.00%
Heavy Trucks	47.30%	5.40%	47.30%	100.00%

[1] Source: County of Riverside Office of Industrial Hygiene, 2017.
"Daytime" = 7:00 a.m. to 7:00 p.m.; "Evening" = 7:00 p.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

TABLE 6-4: TRAFFIC FLOW BY VEHICLE TYPE (VEHICLE MIX)

Roadway	Total % Traffic Flow			Total
	Autos	Medium Trucks	Heavy Trucks	
All Roadways	97.42%	1.84%	0.74%	100.00%

[1] Source: County of Riverside Office of Industrial Hygiene, 2017.

6.1.2 ON-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

The maximum two-way traffic volumes at a level of service C shown on Table 6-5, were obtained from Table 3.7 of the City of Wildomar Mobility Plan Existing Conditions Report (23) and reflect future long-range traffic conditions needed to assess the on-site traffic noise environment and to identify potential mitigation measures (if any) that address the worst-case future conditions.

To predict the future noise environment at Planning Areas within the Project site, coordinate information was collected to identify the noise transmission path between the noise source and receiver. The coordinate information is based on the Project site plan (Exhibit 1-B) showing the proposed Project land uses adjacent City of Wildomar General Plan roadways. The first-floor exterior noise level receivers were placed five feet above the pad elevation. All second-floor receivers were located 14 feet above the proposed finished floor elevation. Table 6-5 presents the on-site roadway parameters including the ADT volumes used for this study. The on-site roadway parameters are based on the City of Wildomar Mobility Plan Table 3.7.

TABLE 6-5: ON-SITE ROADWAY PARAMETERS

Roadway	Classification[1]	Lanes	Average Daily Traffic Volume[2]	Speed Limit (mph)
Wildomar Tr.	Secondary	4	20,700	45
Clinton Keith Rd.	Urban Arterial	6	43,100	45

[1] Road classifications based upon the City of Wildomar General Plan Circulation Element.
[2] City of Wildomar Mobility Plan, Table 3.7

This page intentionally left blank

7 OFF-SITE TRAFFIC NOISE ANALYSIS

As described in Section 4.1, the off-site traffic noise impacts are evaluated based on noise level increases resulting from the Project. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. To assess the off-site transportation CNEL noise level impacts associated with development of the proposed Project, noise contours were developed based on *Wildomar Crossroads Traffic Impact Analysis* prepared by EPD Solutions, Inc . Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 NOISE CONTOURS

Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at receiving land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area.

Appendix 7.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios. Tables 7-1 through 7-4 present a summary of the exterior dBA CNEL traffic noise levels without barrier attenuation. Roadway segments are analyzed in each of the following timeframes:

- Existing Conditions
- Existing plus Project Conditions
- Cumulative (2024) Conditions
- Cumulative (2024) plus Project Conditions

TABLE 7-1: EXISTING PROJECT CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Inland Valley Dr.	s/o Clinton Keith Rd.	68.0	RW	79	171
2	Clinton Keith Rd.	w/o Arya Rd.	71.4	94	202	436
3	Clinton Keith Rd.	w/o Wildomar Tr.	70.7	84	182	392
4	Clinton Keith Rd.	e/o Wildomar Tr.	70.5	83	178	384
5	Clinton Keith Rd.	e/o Inland Valley Dr.	69.4	RW	149	321

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-2: EXISTING PLUS PROJECT CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Inland Valley Dr.	s/o Clinton Keith Rd.	68.4	RW	84	181
2	Clinton Keith Rd.	w/o Arya Rd.	71.6	98	210	453
3	Clinton Keith Rd.	w/o Wildomar Tr.	70.8	86	186	401
4	Clinton Keith Rd.	e/o Wildomar Tr.	70.9	88	189	406
5	Clinton Keith Rd.	e/o Inland Valley Dr.	69.7	RW	157	338

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-3: CUMULATIVE CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Inland Valley Dr.	s/o Clinton Keith Rd.	70.8	56	122	262
2	Clinton Keith Rd.	w/o Arya Rd.	73.6	132	285	615
3	Clinton Keith Rd.	w/o Wildomar Tr.	73.2	124	267	575
4	Clinton Keith Rd.	e/o Wildomar Tr.	73.2	124	268	578
5	Clinton Keith Rd.	e/o Inland Valley Dr.	72.4	109	235	506

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-4: CUMULATIVE PLUS PROJECT CONTOURS

ID	Road	Segment	CNEL at Nearest Receiving Land Use (dBA)[1]	Distance to Contour from Centerline (Feet)		
				70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Inland Valley Dr.	s/o Clinton Keith Rd.	71.0	58	125	270
2	Clinton Keith Rd.	w/o Arya Rd.	73.8	136	292	629
3	Clinton Keith Rd.	w/o Wildomar Tr.	73.3	125	270	582
4	Clinton Keith Rd.	e/o Wildomar Tr.	73.4	128	277	596
5	Clinton Keith Rd.	e/o Inland Valley Dr.	72.5	112	241	520

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest receiving land use.
"RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report. Table 7-1 shows the Existing Project conditions CNEL noise levels. The Existing Project exterior noise levels range from 68.0 to 71.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing plus Project conditions ranging from 68.4 to 71.6 dBA CNEL. Table 7-5 shows that the Project off-site traffic noise level increases range from 0.1 to 0.4 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Existing Project-related traffic.

TABLE 7-5: EXISTING PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Inland Valley Dr.	s/o Clinton Keith Rd.	68.0	68.4	0.4	1.5	No
2	Clinton Keith Rd.	w/o Arya Rd.	71.4	71.6	0.2	1.5	No
3	Clinton Keith Rd.	w/o Wildomar Tr.	70.7	70.8	0.1	1.5	No
4	Clinton Keith Rd.	e/o Wildomar Tr.	70.5	70.9	0.4	1.5	No
5	Clinton Keith Rd.	e/o Inland Valley Dr.	69.4	69.7	0.3	1.5	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

7.2 CUMULATIVE PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report. Table 7-3 shows the Cumulative conditions CNEL noise levels. The Cumulative exterior noise levels range from 70.8 to 73.6 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the Cumulative plus Project conditions ranging from 71.0 to 73.8 dBA CNEL. Table 7-3 shows that the Project off-site traffic noise level increases range from 0.1 to 0.2 dBA CNEL on the study area roadway segments. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level increases on receiving land uses due to the Cumulative Project-related traffic.

TABLE 7-6: CUMULATIVE PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	CNEL at Receiving Land Use (dBA)[1]			Incremental Noise Level Increase Threshold[2]	
			No Project	With Project	Project Addition	Limit	Exceeded?
1	Inland Valley Dr.	s/o Clinton Keith Rd.	70.8	71.0	0.2	1.5	No
2	Clinton Keith Rd.	w/o Arya Rd.	73.6	73.8	0.2	1.5	No
3	Clinton Keith Rd.	w/o Wildomar Tr.	73.2	73.3	0.1	1.5	No
4	Clinton Keith Rd.	e/o Wildomar Tr.	73.2	73.4	0.2	1.5	No
5	Clinton Keith Rd.	e/o Inland Valley Dr.	72.4	72.5	0.1	1.5	No

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

8 ON-SITE TRAFFIC NOISE ANALYSIS

An on-site exterior noise impact analysis has been completed to determine the noise exposure levels that would result from adjacent transportation noise sources in the Project study area, and to identify potential noise abatement measures that would achieve acceptable Project exterior and interior noise levels. The primary source of transportation noise affecting the Project site is anticipated to be from Wildomar Trail and Clinton Keith Road. The Project would also be exposed to nominal traffic noise from the Project's internal roads. However, due to the distance, topography and low traffic volume/speed, traffic noise from these roads will not make a substantive contribution to ambient noise conditions. This section analyzes on-site exterior and interior noise levels at the Project buildings.

8.1 EXTERIOR NOISE ANALYSIS

Using the FHWA traffic noise prediction model and the parameters outlined in Tables 6-3 to 6-5, the expected future exterior noise levels for the on-site Project land uses were estimated at on-site receiver locations. To describe the on-site traffic noise impacts, five on-site receiver locations were identified at the multi-family residential locations facing Wildomar Trail and Clinton Keith Road as shown on Exhibit 8-A. Table 8-1 presents a summary of future on-site exterior traffic noise levels. The on-site traffic noise analysis calculations are provided in Appendix 8.1.

TABLE 8-1: EXTERIOR NOISE LEVELS

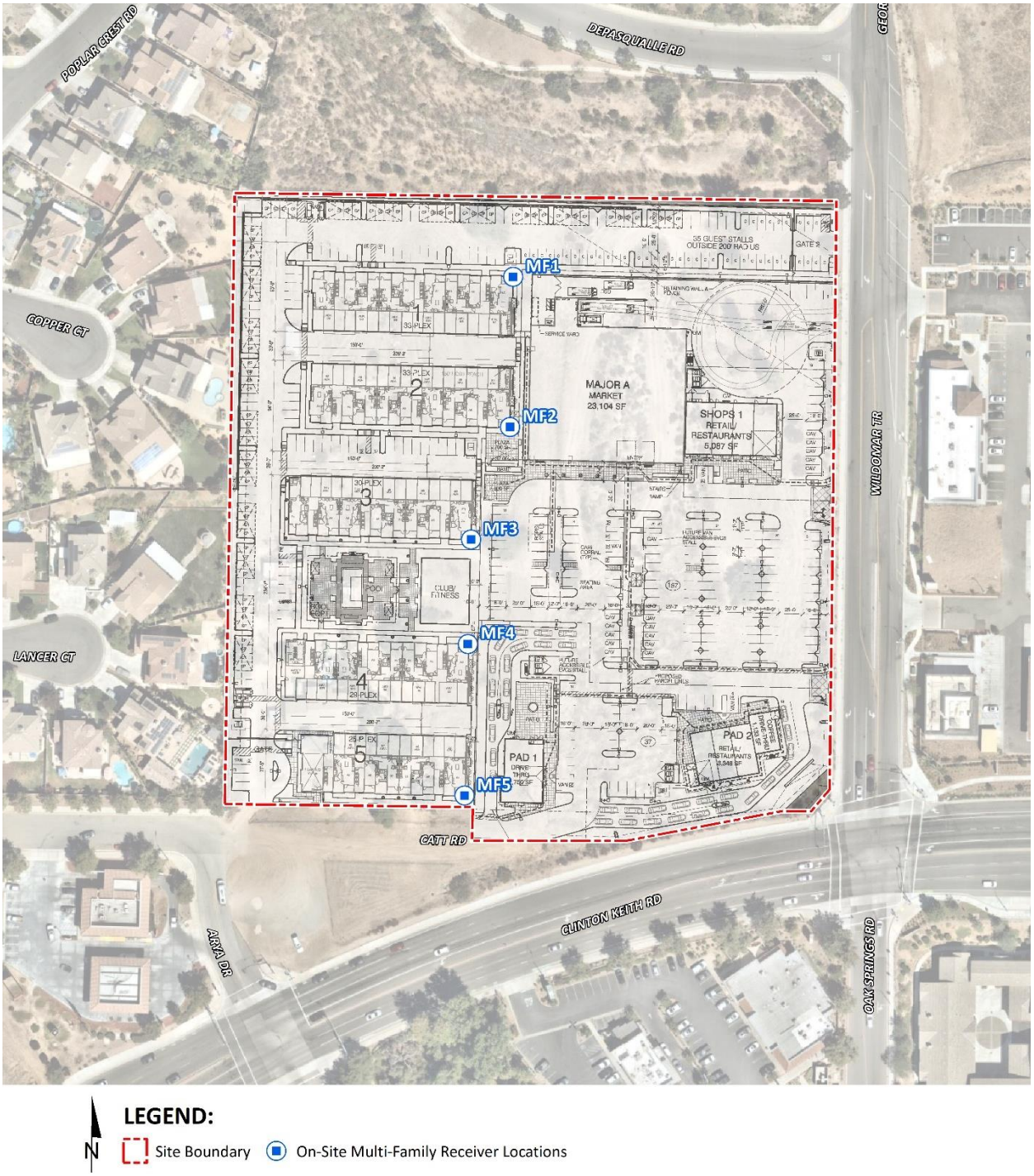
Receiver Location[1]	Roadway	Land Use	Exterior Noise Level (dBA CNEL)[2]	Land Use Compatibility[3]
MF1	Wildomar Trail	Multi-Family Residential	56.6	*Normally Acceptable*
MF2	Wildomar Trail	Multi-Family Residential	56.6	*Normally Acceptable*
MF3	Clinton Keith Rd.	Multi-Family Residential	59.2	*Normally Acceptable*
MF4	Clinton Keith Rd.	Multi-Family Residential	61.1	*Normally Acceptable*
MF5	Clinton Keith Rd.	Multi-Family Residential	65.3	*Conditionally Acceptable*

[1] On-site multi-family receiver locations shown on Exhibit 8-A.
[2] Exterior on-site traffic noise level calculations are included in Appendix 8.1.
[3] Based on the General Plan land use compatibility guidelines as shown on Exhibit 3-A.

As shown on Table 8-1, the proposed multi-family residential land use will experience transportation related exterior noise levels of ranging from 56.6 to 65.3 dBA CNEL. Based on Exhibit 3-A, multi-family residential land use is considered *normally acceptable* as noise approaches 65 dBA CNEL and *conditionally acceptable* up to 70 dBA CNEL. For *normally acceptable* exterior noise levels, the *Land Use Compatibility Standards* indicate that the *land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insultation requirements.* For *conditionally acceptable* exterior noise levels, the *land use compatibility guidelines* indicates that *new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional*

construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Tables 8-2 presents the detailed analysis of the interior noise reduction requirements. Therefore, no exterior noise abatement is required to satisfy the land use compatibility guidelines.

EXHIBIT 8-A: ON-SITE RECEIVER LOCATIONS



8.2 INTERIOR NOISE ANALYSIS

To ensure that the Project provides an acceptable interior noise environment, this analysis relies on the acceptable 45 dBA CNEL interior noise limit for new construction.

8.2.1 NOISE REDUCTION METHODOLOGY

The interior noise level is the difference between the predicted exterior noise level at the building façade and the noise reduction of the structure. Typical building construction will provide a Noise Reduction (NR) of approximately 12 dBA with "windows open" and a minimum 25 dBA noise reduction with "windows closed." (4) (24) However, sound leaks, cracks and openings within the window assembly can greatly diminish its effectiveness in reducing noise. Several methods are used to improve interior noise reduction, including: [1] weather-stripped solid core exterior doors; [2] upgraded dual glazed windows; [3] mechanical ventilation/air conditioning; and [4] exterior wall/roof assembles free of cut outs or openings.

8.2.2 INTERIOR NOISE LEVEL ASSESSMENT

Table 8-2 shows that the buildings within the Project will require a windows-closed condition and a means of mechanical ventilation (e.g., air conditioning). Table 8-2 shows that the future interior noise levels are expected to range from 31.6 to 40.3 dBA CNEL. The interior noise level analysis shows that the 45 dBA CNEL interior noise level standard can be satisfied using standard building construction providing windows and sliding glass doors with minimum STC ratings of 27.

TABLE 8-2: INTERIOR NOISE LEVELS (CNEL)

Receiver Location	Roadway	Noise Level at Façade[1]	Required Interior Noise Reduction[2]	Estimated Interior Noise Reduction[3]	Upgraded Windows[4]	Interior Noise Level[5]
MF1	Wildomar Trail	56.6	11.6	25.0	No	31.6
MF2	Wildomar Trail	56.6	11.6	25.0	No	31.6
MF3	Clinton Keith Rd.	59.2	14.2	25.0	No	34.2
MF4	Clinton Keith Rd.	61.1	16.1	25.0	No	36.1
MF5	Clinton Keith Rd.	65.3	20.3	25.0	No	40.3

[1] Exterior noise level at the facade with a windows closed condition requiring a means of mechanical ventilation (e.g. air conditioning).
[2] Noise reduction required to satisfy the 45 dBA CNEL interior noise limits.
[3] A minimum of 25 dBA noise reduction is assumed with standard building construction.
[4] Does the required interior noise reduction trigger upgraded windows with a minimum STC rating of greater than 27?
[5] Estimated interior noise level with minimum STC rating for all windows.

This page intentionally left blank

9 OFF-SITE RECEIVER LOCATIONS

To assess the potential for long-term stationary source and short-term construction noise impacts, the following off-site receiver locations, as shown on Exhibit 9-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, four receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location.

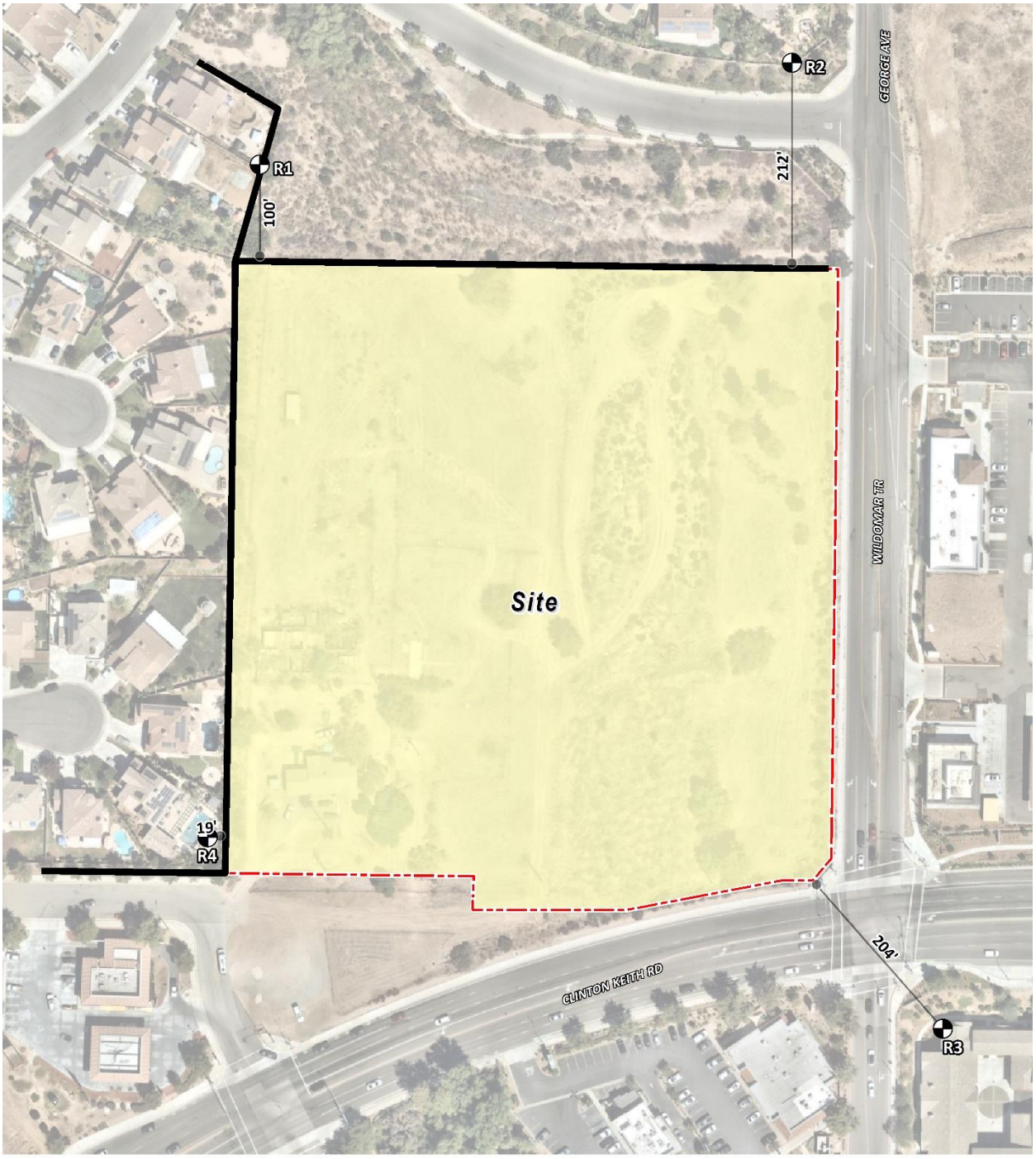
R1: Location R1 represents existing noise sensitive residence at 35816 Poplar Crest Road, approximately 100 feet northwest of the Project site. Receiver R1 is placed in the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.

R2: Location R2 represents existing noise sensitive residence at 35925 Susan Drive, approximately 212 feet northeast of the Project site. Receiver R2 is placed in the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents existing noise sensitive Oak Springs Ranch at 24055 Clinton Keith Road, approximately 204 feet southeast of the Project site. Since there is no private outdoor living areas (backyards) facing the Project site, receiver R3 is placed at the building façade facing the Project site. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

R4: Location R4 represents existing noise sensitive residence at 23849 Lancer Court, approximately 19 feet west of the Project site. Receiver R4 is placed in the private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

EXHIBIT 9-A: OFF-SITE RECEIVER LOCATIONS



10 STATIONARY SOURCE NOISE IMPACTS

This section analyzes the potential stationary-source stationary source noise impacts at the nearest receiver locations, identified in Section 9, resulting from the operation of the Wildomar Crossroads Project. Exhibit 10-A identifies the representative noise source activities used to assess the stationary source noise levels.

10.1 STATIONARY SOURCE NOISE SOURCES

This stationary source noise analysis is intended to describe noise level impacts associated with the expected typical daytime and nighttime activities at the Project site. The on-site Project-related noise sources are expected to include: loading dock activity, pool/spa activity, outdoor seating activity, trash enclosure activity, roof-top air conditioning units, parking lot activity, shopping cart corrals and drive-thru speakerphones.

10.2 REFERENCE NOISE LEVELS

To estimate the Project stationary source noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 10-1 used to estimate the Project stationary source noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading dock activity, pool/spa activity, outdoor seating activity, trash enclosure activity, roof-top air conditioning units, parking lot activity, shopping cart corrals and drive-thru speakerphones all operating at the same time. These sources of noise activity will likely vary throughout the day.

10.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precisions sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (19)

EXHIBIT 10-A: STATIONARY SOURCE NOISE LOCATIONS

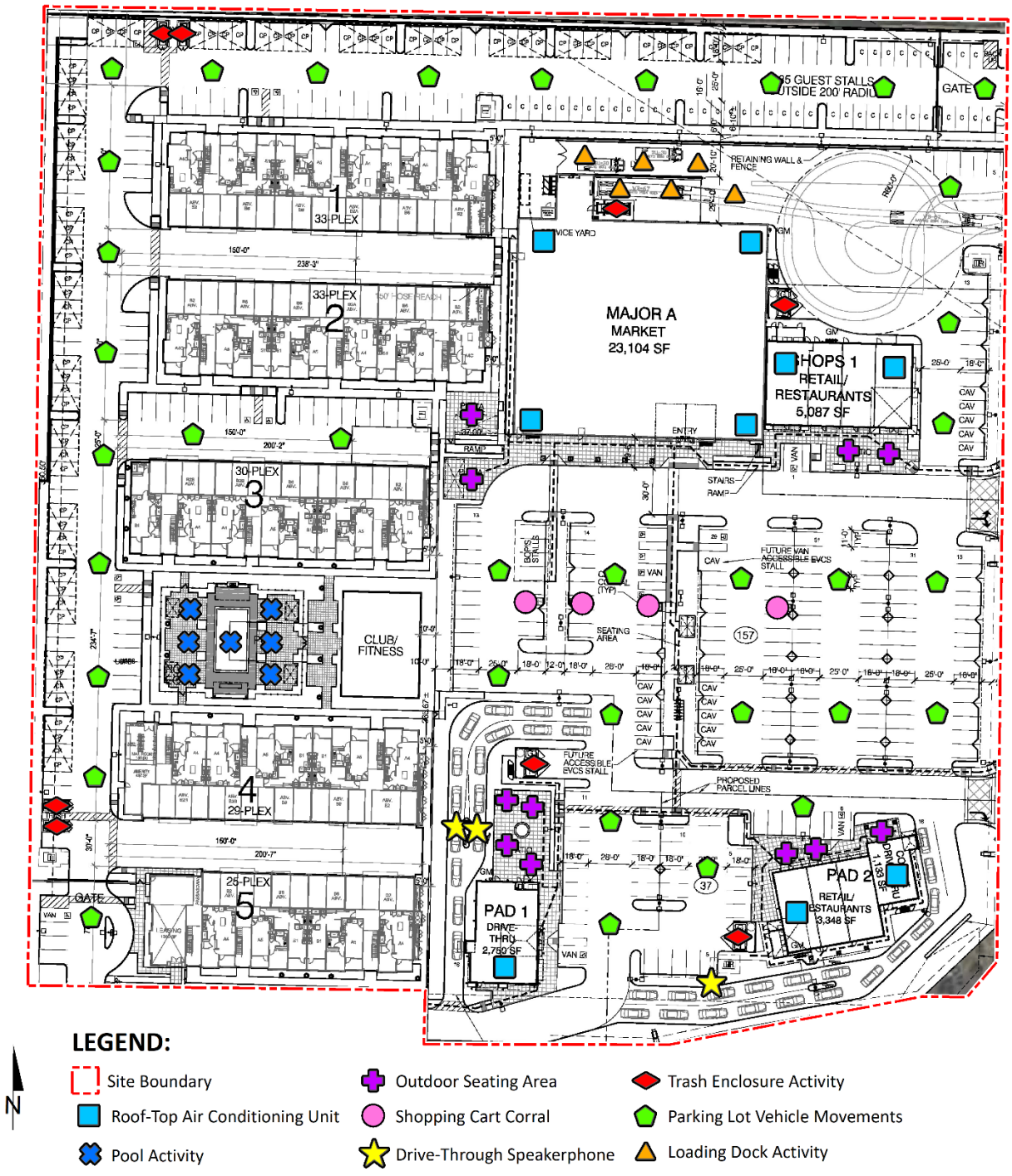


TABLE 10-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source[1]	Noise Source Height (Feet)	Min./Hour[2]		Reference Noise Level @50 feet (dBA L_{eq})	Sound Power Level (dBA)[3]
		Day	Night		
Loading Dock Activity	5'	60	0	62.8	103.4
Pool/Spa Activity	4'	60'	60'	54.7	94.6
Outdoor Seating Activity	5'	60	0	59.8	91.5
Trash Enclosure Activity	5'	10	10	56.8	89.0
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Parking Lot Activity	5'	60	60	56.1	87.8
Shopping Cart Corral	3'	20	20	52.9	87.5
Drive-Thru Speakerphone	3'	60	60	51.5	83.2

[1] As measured by Urban Crossroads, Inc.
[2] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source.

10.2.2 LOADING DOCK ACTIVITY

The reference loading dock activities are intended to describe the typical stationary source noise levels associated with the Project. This includes truck idling, deliveries, backup alarms, unloading/loading, docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background forklift operations. At a uniform reference distance of 50 feet, Urban Crossroads collected a reference noise level of 62.8 dBA L_{eq}.

The loading dock activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources taken from the center of activity. The reference noise level measurement includes employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm. In addition, during the noise level measurement a truck entered the loading dock area and proceeded to reverse and dock in a nearby loading bay, adding truck engine, idling, air brakes noise, in addition to on-going idling of an already docked truck.

10.2.3 POOL/SPA ACTIVITY

To represent the noise levels associated with pool activities, Urban Crossroads collected a reference noise level measurement that include kids playing, running, screaming, splashing, playing with a ball, and parents talking. The reference noise level at 50 feet is 54.7 dBA L_{eq} for pool activity. Pool/Spa activities are expected to be limited to daytime hours with no activities at night.

10.2.4 OUTDOOR SEATING ACTIVITY

To describe the outdoor common area courtyards activity areas, a reference noise level measurement was taken. At 50 feet, the reference noise level is 59.8 dBA L_{eq} at a noise source height of 5 feet. The reference noise level measurement includes outdoor eating, drinking, with laughing and talking. Outdoor common area activities are limited to the daytime hours only.

10.2.5 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project site. The measured reference noise level at the uniform 50-foot reference distance is 56.8 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building. Typical trash enclosure activities are estimated to occur for 10 minutes per hour.

10.2.6 ROOF-TOP AIR CONDITIONING UNITS

To assess the noise levels created by the roof-top air conditioning units, reference noise level measurements were collected from a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise levels are 57.2 dBA L_{eq}. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for an average of 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. For this noise analysis, the air conditioning units are expected to be located on the roof of the proposed building. This reference noise level describes the expected roof-top air conditioning units located 5 feet above the roof for the planned air conditioning units at the Project site.

10.2.7 PARKING LOT ACTIVITY

To describe the on-site parking lot activity a reference noise level of 56.1 dBA L_{eq} at 50 feet is used. Parking lot activity are expected to take place during the full hour (60 minutes) throughout the daytime and evening hours. The parking lot noise levels are mainly due cars pulling in and out of parking spaces.

10.2.8 SHOPPING CART CORRAL (METAL CARTS)

To evaluate the noise level impacts from shopping carts placed by customers into assigned shopping cart corral areas, Urban Crossroads collected reference noise level measurements of 52.9 dBA L_{eq} at 50 feet. The noise impacts are mainly due to the metal shopping carts crashing into other carts already placed in the corral as well as striking the side rails. Shopping cart corral activities are estimated to occur for 20 minutes per hour.

10.2.9 DRIVE-THRU SPEAKERPHONE ACTIVITY

To describe the potential noise level impacts associated with potential drive-thru speakerphones and vehicle activities, a reference noise level measurement was collected. The reference noise levels collected are expected to reflect potential drive-thru speakerphone noise level activities at the Project site, since the reference measurement includes both drive-thru speakerphone and vehicle activity noise. The noise sources included in the reference noise level measurement consist of voices of the employees over the speakerphone, customers' voices ordering food, car engines idling, car radios playing music, and cars queuing in the drive-thru lane. At 50 feet from the speakerphone, a reference noise level of 51.5 dBA L_{eq} was measured.

10.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior stationary sourcestationary source noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The stationary sourcestationary source noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces.

10.4 PROJECT STATIONARY SOURCESTATIONARY SOURCE NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, pool/spa activity, outdoor seating activity, trash enclosure activity, roof-top air conditioning units, parking lot activity, shopping cart corrals and drive-thru speakerphones, Urban Crossroads, Inc. calculated the stationary sourcestationary source source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 10-2 shows the Project stationary sourcestationary source noise levels during the daytime hours of 7:00 a.m. to 10:00

p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 42.9 to 47.7 dBA L_{eq}. Table 10-3 shows the Project stationary sourcestationary source noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 39.1 to 44.5 dBA L_{eq}. The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 10-1). Appendix 10.1 includes the detailed noise model inputs including the existing perimeter walls used to estimate the Project stationary sourcestationary source noise levels presented in this section.

TABLE 10-2: DAYTIME PROJECT STATIONARY SOURCE NOISE LEVELS

Noise Source[1]	Stationary source Noise Levels by Receiver Location (dBA Leq)			
	R1	R2	R3	R4
Loading Dock Activity	32.2	36.5	16.4	15.1
Pool/Spa Activity	22.9	19.8	26.6	39.6
Outdoor Seating Activity	21.1	25.8	35.7	24.1
Trash Enclosure Activity	23.0	23.5	22.8	38.6
Roof-Top Air Conditioning Units	41.2	40.3	40.1	42.5
Parking Lot Activity	38.2	40.0	36.6	43.3
Shopping Cart Corral	7.0	10.4	20.2	9.6
Drive-Thru Speakerphone	14.4	10.4	23.1	35.7
Total (All Noise Sources)	**43.4**	**44.1**	**42.9**	**47.7**

[1] See Exhibit 10-A for the noise source locations. CadnaA noise model calculations are included in Appendix 10.1.

TABLE 10-3: NIGHTTIME PROJECT STATIONARY SOURCE NOISE LEVELS

Noise Source[1]	Stationary source Noise Levels by Receiver Location (dBA Leq)			
	R1	R2	R3	R4
Loading Dock Activity	28.2	32.5	12.5	11.1
Pool/Spa Activity	0.0	0.0	0.0	0.0
Outdoor Seating Activity	0.0	0.0	0.0	0.0
Trash Enclosure Activity	22.1	22.5	21.8	37.6
Roof-Top Air Conditioning Units	38.8	37.9	37.7	40.1
Parking Lot Activity	34.3	36.0	32.6	39.3
Shopping Cart Corral	6.1	9.4	19.2	8.7
Drive-Thru Speakerphone	14.4	10.4	23.1	35.7
Total (All Noise Sources)	**40.5**	**40.8**	**39.1**	**44.5**

[1] See Exhibit 10-A for the noise source locations. CadnaA noise model calculations are included in Appendix 10.1.

10.5 PROJECT STATIONARY SOURCE NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only stationary source noise levels are evaluated against exterior noise level thresholds based on the City of Wildomar exterior

noise level standards at nearby noise-sensitive receiver locations. Table 10-4 shows the stationary source noise levels associated with Wildomar Crossroads Project will satisfy the City of Wildomar 65 dBA L_{eq} daytime and 45 dBA L_{eq} nighttime exterior noise level standards at all nearby receiver locations. Therefore, the stationary source noise impacts are considered *less than significant* at the nearby noise-sensitive receiver locations.

TABLE 10-4: STATIONARY SOURCE NOISE LEVEL COMPLIANCE

Receiver Location[1]	Project Stationary source Noise Levels (dBA Leq)[2]		Noise Level Standards (dBA Leq)[3]		Noise Level Standards Exceeded?[4]	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	43.4	40.5	65	45	No	No
R2	44.1	40.8	65	45	No	No
R3	42.9	39.1	65	45	No	No
R4	47.7	44.5	65	45	No	No

[1] See Exhibit 9-A for the off-site receiver locations.
[2] Proposed Project stationary source noise levels as shown on Tables 10-2 and 10-3.
[3] City of Wildomar General Plan Policy N 4.1.
[4] Do the estimated Project stationary source noise source activities exceed the noise level standards? "Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

10.6 PROJECT STATIONARY SOURCE NOISE LEVEL INCREASES

To describe the Project stationary source noise level increases, the Project stationary source noise levels are combined with the existing ambient noise levels measurements for the nearby off-site receiver locations potentially impacted by Project stationary source noise sources. The stationary source noise level increases are limited to the off-site receiver locations R1 to R5 that may perceive a noise level increase over time. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-stationary source and existing ambient noise levels cannot be combined using standard arithmetic equations. (2) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \ldots 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-stationary source and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 10-5 and 10-6, respectively. As indicated on Tables 10-5, the Project will generate a daytime stationary source noise level increases ranging from 0.1 to 1.7 dBA L_{eq} at the nearest receiver locations. Table 10-6 shows that the Project will generate a nighttime stationary source noise level increases ranging from 0.1 to 0.3 dBA L_{eq} at the nearest receiver locations. Project-related stationary source noise level increases will satisfy the stationary source noise level increase significance criteria presented in Table 4-1. Therefore, the incremental Project stationary source noise level increase is considered *less than significant* at all receiver locations.

TABLE 10-5: DAYTIME PROJECT STATIONARY SOURCE NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Stationary source Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	43.4	L1	54.4	54.7	0.3	5.0	No
R2	44.1	L2	60.4	60.5	0.1	3.0	No
R3	42.9	L3	61.7	61.8	0.1	3.0	No
R4	47.7	L4	50.9	52.6	1.7	5.0	No

[1] See Exhibit 9-A for the receiver locations.
[2] Total Project daytime stationary source noise levels as shown on Table 10-2.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

TABLE 10-6: NIGHTTIME PROJECT STATIONARY SOURCE NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Stationary source Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	40.5	L1	53.3	53.5	0.2	5.0	No
R2	40.8	L2	55.4	55.5	0.1	5.0	No
R3	39.1	L2	55.4	55.5	0.1	5.0	No
R4	44.5	L3	55.8	56.1	0.3	5.0	No

[1] See Exhibit 9-A for the receiver locations.
[2] Total Project nighttime stationary source noise levels as shown on Table 10-3.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed nighttime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

11 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Construction is anticipated to begin in December 2022 and will last through February 2024. Exhibit 11-A shows the construction noise source locations in relation to the nearby sensitive receiver locations previously described in Section 9. Section 9.48.020 (I) of the Noise Regulation ordinance indicates that *noise associated with any private construction activity located within one-quarter of a mile from an inhabited dwelling is considered exempt between the hours of 6:00 a.m. and 6:00 p.m., during the months of June through September, and 7:00 a.m. and 6:00 p.m., during the months of October through May*. (13)

In addition, since neither the City of Wildomar General Plan or County Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes, a numerical construction threshold based on Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual is used for analysis of daytime construction impacts. The FTA considers a daytime exterior construction noise level of 80 dBA L_{eq} as a reasonable threshold for noise sensitive residential land use. (8 p. 179)

Construction trips would occur throughout the construction period and would be associated with the delivery of building materials, supplies, and concrete to the Project Site. The construction trips will consist mostly of individual worker vehicles. However, it is expected that the individual worker vehicle construction noise source activities will be overshadowed by the construction noise source activities outlined below.

11.1 CONSTRUCTION NOISE LEVELS

The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages and outlines the procedures for assessing noise impacts during construction. Each stage has a specific equipment mix, depending on the work to be completed during that stage. As a result of the equipment mix, each stage has its own noise characteristics; some stages have higher continuous noise levels than others, and some have higher impact noise levels than others. The Project construction activities are expected to occur in the following stages:

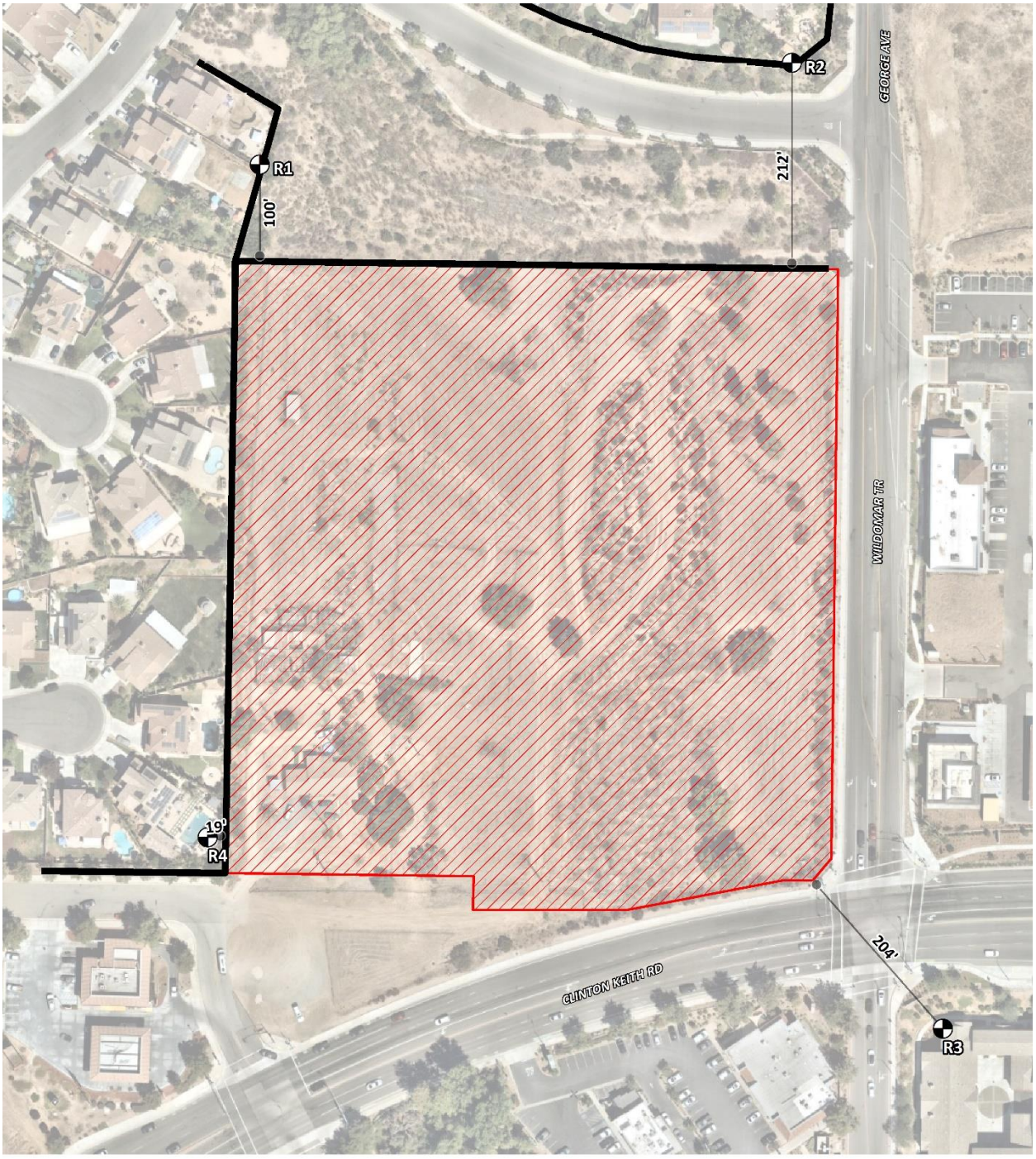
- Demolition
- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

11.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA)

published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (25) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

EXHIBIT 11-A: TYPICAL CONSTRUCTION NOISE SOURCE LOCATIONS



11.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Consistent with FTA guidance for general construction noise assessment, Table 11-1 presents the combined noise levels for the loudest construction equipment, assuming they operate at the same time. As shown on Table 11-2, the construction noise levels are expected to range from 46.6 to 61.3 dBA L_{eq} at the nearby receiver locations. Appendix 11.1 includes the detailed CadnaA construction noise model inputs.

TABLE 11-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity	Reference Noise Level @ 50 Feet (dBA L_{eq})[1]	Combined Noise Level (dBA L_{eq})[2]	Combined Sound Power Level (PWL)[3]
Demolition	Demolition Equipment	82	83	115
	Backhoes	74		
	Hauling Trucks	72		
Site Preparation	Crawler Tractors	78	80	112
	Hauling Trucks	72		
	Rubber Tired Dozers	75		
Grading	Graders	81	83	115
	Excavators	77		
	Compactors	76		
Building Construction	Cranes	73	81	113
	Tractors	80		
	Welders	70		
Paving	Pavers	74	83	115
	Paving Equipment	82		
	Rollers	73		
Architectural Coating	Cranes	73	77	109
	Air Compressors	74		
	Generator Sets	70		

[1] FHWA Roadway Construction Noise Model (RCNM).
[2] Represents the combined noise level for all equipment assuming they operate at the same time consistent with FTA Transit Noise and Vibration Impact Assessment guidance.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calibrated using the CadnaA noise model at the reference distance to the noise source.

TABLE 11-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})						
	Demolition	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	54.0	51.0	54.0	52.0	54.0	48.0	54.0
R2	53.4	50.4	53.4	51.4	53.4	47.4	53.4
R3	52.6	49.6	52.6	50.6	52.6	46.6	52.6
R4	61.3	58.3	61.3	59.3	61.3	55.3	61.3

[1] Noise receiver locations are shown on Exhibit 11-A.
[2] Construction noise level calculations based on distance from the construction activity, which is measured from the Project site boundary to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 11.1.

11.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearest receiver locations, a construction-related daytime noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will satisfy the reasonable daytime 80 dBA L_{eq} significance threshold during Project construction activities as shown on Table 11-3. Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations.

TABLE 11-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	54.0	80	No
R2	53.4	80	No
R3	52.6	80	No
R4	61.3	80	No

[1] Noise receiver locations are shown on Exhibit 11-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity to the nearest receiver locations as shown on Table 11-2.
[3] Construction noise level thresholds as shown on Table 4-1.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

11.5 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized on Table 11-4. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential for human response (annoyance) and

building damage using the following vibration assessment methods defined by the FTA. To describe the vibration impacts the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 11-4: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089
Vibratory Roller	0.210

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 11-5 presents the expected Project related vibration levels at the nearby receiver building façade locations. At distances ranging from 49 to 252 feet from the building façade to the Project construction activities, construction vibration velocity levels are estimated to range from 0.007 to 0.0.77 in/sec PPV. Based on maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec), the typical Project construction vibration levels will fall below the building damage thresholds at all the noise sensitive receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site. Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

TABLE 11-5: PROJECT CONSTRUCTION VIBRATION LEVELS

Location[1]	Distance to Const. Activity (Feet)[2]	Typical Construction Vibration Levels PPV (in/sec)[3]						Thresholds PPV (in/sec)[4]	Thresholds Exceeded?[5]
		Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Vibratory Roller	Highest Vibration Level		
R1	137'	0.000	0.003	0.006	0.007	0.016	0.016	0.3	No
R2	252'	0.000	0.001	0.002	0.003	0.007	0.007	0.3	No
R3	204'	0.000	0.002	0.003	0.004	0.009	0.009	0.3	No
R4	49'	0.001	0.013	0.028	0.032	0.077	0.077	0.3	No

[1] Receiver locations are shown on Exhibit 11-A.
[2] Distance from receiver building facade to Project construction boundary (Project site boundary).
[3] Based on the Vibration Source Levels of Construction Equipment (Table 11-4).
[4] Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38.
[5] Does the peak vibration exceed the acceptable vibration thresholds?
"PPV" = Peak Particle Velocity

Moreover, the impacts at the site of the nearest sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

This page intentionally left blank

12 REFERENCES

1. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
2. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
3. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
4. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch.** *Highway Traffic Noise Analysis and Abatement Policy and Guidance.* December 2011.
5. **U.S. Department of Transportation Federal Highway Administration.** *Highway Noise Barrier Design Handbook.* 2001.
6. **U.S. Department of Transportation, Federal Highway Administration.** *Highway Traffic Noise in the United States, Problem and Response.* April 2000. p. 3.
7. **U.S. Environmental Protection Agency Office of Noise Abatement and Control.** *Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise.* October 1979 (revised July 1981). EPA 550/9/82/106.
8. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
9. **Office of Planning and Research.** *State of California General Plan Guidelines.* October 2017.
10. **State of California.** California Code of Regulations, Title 24, Part 2, Volume 1, Chapter 12, Section 1206.4, Allowable Interior Noise Level. *ICC Digital Coes.* [Online] 2019. https://codes.iccsafe.org/content/CABCV12019/chapter-12-interior-environment.
11. —. *2019 California Green Building Standards Code.* January 2020.
12. **City of Wildomar.** *General Plan Noise Element.* October 2003.
13. —. *Municipal Code, Chapter 9.48 - Noise Regulations.*
14. **U.S. Department of Transportation, Federal Transit Administration.** *Transit Noise and Vibration Impact Assessment Manual.* September 2018.
15. **California Department of Transportation.** *Transportation and Construction Vibration Guidance Manual.* April 2020.
16. **California Court of Appeal.** *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; - Cal.Rptr.3d, October 2008.
17. **Federal Interagency Committee on Noise.** *Federal Agency Review of Selected Airport Noise Analysis Issues.* August 1992.
18. **California Department of Transportation.** *Technical Noise Supplement.* November 2009.
19. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*
20. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.

21. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.
22. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
23. **City of Wildomar.** *Mobility Plan Existing Conditions Report.*
24. **California Department of Transportation.** *Traffic Noise Analysis Protocol.* May 2011.
25. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.

13 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Wildomar Crossroads Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 584-3148.



Bill Lawson, P.E., INCE
Principal
URBAN CROSSROADS, INC.
1133 Camelback #8329
Newport Beach, CA 92658
(949) 581-3148
blawson@urbanxroads.com

EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of San Diego • March, 2018
Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

This page intentionally left blank

APPENDIX 3.1:

CITY OF WILDOMAR MUNICIPAL CODE

This page intentionally left blank

Chapter 9.48 NOISE REGULATION

9.48.010 Intent.

At certain levels, sound becomes noise and may jeopardize the health, safety or general welfare of the City of Wildomar residents and degrade their quality of life. Pursuant to its police power, the City Council declares that noise shall be regulated in the manner described in this chapter. This chapter is intended to establish City-wide standards regulating noise. This chapter is not intended to establish thresholds of significance for the purpose of any analysis required by the California Environmental Quality Act and no such thresholds are established. (Ord. 18 § 2, 2008, RCC § 9.52.010)

9.48.020 Exemptions.

Sound emanating from the following sources is exempt from the provisions of this chapter:

A. Facilities owned or operated by or for a governmental agency;

B. Capital improvement projects of a governmental agency;

C. The maintenance or repair of public properties;

D. Public safety personnel in the course of executing their official duties, including, but not limited to, sworn peace officers, emergency personnel and public utility personnel. This exemption includes, without limitation, sound emanating from all equipment used by such personnel, whether stationary or mobile;

E. Public or private schools and school-sponsored activities;

F. Agricultural operations on land designated “agriculture” in the City General Plan, or land zoned A-l (light agriculture), A-P (light agriculture with poultry), A-2 (heavy agriculture), A-D (agriculture-dairy) or C/V (citrus/vineyard), provided such operations are carried out in a manner consistent with accepted industry standards. This exemption includes, without limitation, sound emanating from all equipment used during such operations, whether stationary or mobile;

G. Wind energy conversion systems (WECS), provided such systems comply with the WECS noise provisions of Title 17;

H. Private construction projects located one-quarter of a mile or more from an inhabited dwelling;

I. Private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that:

1. Construction does not occur between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September, and

2. Construction does not occur between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May;

J. Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of 7:00 a.m. and 8:00 p.m.;

K. Motor vehicles, other than off-highway vehicles. This exemption does not include sound emanating from motor vehicle sound systems;

L. Heating and air conditioning equipment;

M. Safety, warning and alarm devices, including, but not limited to, house and car alarms, and other warning devices that are designed to protect the public health, safety, and welfare;

N. The discharge of firearms consistent with all state laws. (Ord. 18 § 2, 2008, RCC § 9.52.020)

9.48.030 Definitions.

As used in this chapter, the following terms shall have the following meanings:

"Audio equipment" means a television, stereo, radio, tape player, compact disc player, mp3 player, iPod or other similar device.

"Decibel (dB)" means a unit for measuring the relative amplitude of a sound equal approximately to the smallest difference normally detectable by the human ear, the range of which includes approximately 130 decibels on a scale beginning with zero decibels for the faintest detectable sound. Decibels are measured with a sound level meter using different methodologies as defined below:

1. "A-weighting (dBA)" means the standard A-weighted frequency response of a sound level meter, which de-emphasizes low and high frequencies of sound in a manner similar to the human ear for moderate sounds.
2. "Maximum sound level (L_{max})" means the maximum sound level measured on a sound level meter.

"Governmental agency" means the United States, the State of California, Riverside County, any city within Riverside County, any special district within Riverside County, the City of Wildomar or any combination of these agencies.

"Land use permit" means a discretionary permit issued by the City pursuant to Title 17.

"Motor vehicle" means a vehicle that is self-propelled.

"Motor vehicle sound system" means a stereo, radio, tape player, compact disc player, mp3 player, iPod or other similar device.

"Noise" means any loud, discordant or disagreeable sound.

"Occupied property" means property upon which is located a residence, business or industrial or manufacturing use.

"Off-highway vehicle" means a motor vehicle designed to travel over any terrain.

"Public or private school" means an institution conducting academic instruction at the preschool, elementary school, junior high school, high school, or college level.

"Public property" means property owned by a governmental agency or held open to the public, including, but not limited to, parks, streets, sidewalks, and alleys.

"Sensitive receptor" means a land use that is identified as sensitive to noise in the noise element of the City General Plan, including, but not limited to, residences, schools, hospitals, churches, rest homes, cemeteries or public libraries.

"Sound-amplifying equipment" means a loudspeaker, microphone, megaphone or other similar device.

"Sound level meter" means an instrument meeting the standards of the American National Standards Institute for Type 1 or Type 2 sound level meters or an instrument that provides equivalent data. (Ord. 18 § 2, 2008, RCC § 9.52.030)

9.48.040 General sound level standards.

No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth in Table 1.

TABLE 1

Sound Level Standards (Db L_{max})

GENERAL PLAN FOUNDATION COMPONENT	GENERAL PLAN LAND USE DESIGNATION	GENERAL PLAN LAND USE DESIGNATION NAME	DENSITY	MAXIMUM DECIBEL LEVEL	
				7 am—10 pm	10 pm—7 am
Community Development	EDR	Estate Density Residential	2 AC	55	45
	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
	MDR	Medium Density Residential	2—5	55	45

	MHDR	Medium High Density Residential	5—8	55	45
	HDR	High Density Residential	8—14	55	45
	VHDR	Very High Density Residential	14—20	55	45
	H'TDR	Highest Density Residential	20+	55	45
	CR	Retail Commercial		65	55
	CO	Office Commercial		65	55
	CT	Tourist Commercial		65	55
	CC	Community Center		65	55
	LI	Light Industrial		75	55
	HI	Heavy Industrial		75	75
	BP	Business Park		65	45
	PF	Public Facility		65	45
	SP	Specific Plan-Residential		55	45
		Specific Plan-Commercial		65	55
		Specific Plan-Light Industrial		75	55
		Specific Plan-Heavy Industrial		75	75
Rural Community	EDR	Estate Density Residential	2 AC	55	45
	VLDR	Very Low Density Residential	1 AC	55	45
	LDR	Low Density Residential	1/2 AC	55	45
Rural	RR	Rural Residential	5 AC	45	45
	RM	Rural Mountainous	10 AC	45	45
	RD	Rural Desert	10 AC	45	45
Agriculture	AG	Agriculture	10 AC	45	45
Open Space	C	Conservation		45	45
	CH	Conservation Habitat		45	45
	REC	Recreation		45	45
	RUR	Rural	20 AC	45	45
	W	Watershed		45	45
	MR	Mineral Resources		75	45

(Ord. 18 § 2, 2008, RCC § 9.52.040)

9.48.050 Sound level measurement methodology.

Sound level measurements may be made anywhere within the boundaries of an occupied property. The actual location of a sound level measurement shall be at the discretion of the enforcement officials identified in Section 9.48.080 of this chapter. Sound level measurements shall be made with a sound level meter. Immediately before a measurement is made, the sound level meter shall be calibrated utilizing an acoustical calibrator meeting the standards of the American National Standards Institute. Following a sound level measurement, the calibration of the sound level meter shall be re-verified. Sound level meters and calibration equipment shall be certified annually. (Ord. 18 § 2, 2008, RCC § 9.52.050)

9.48.060 Special sound sources standards.

The general sound level standards set forth in Section 9.48.040 of this chapter apply to sound emanating from all sources, including the following special sound sources, and the person creating, or allowing the creation of, the sound is subject to the requirements of that section. The following special sound sources are also subject to the following additional standards, the failure to comply with which constitutes separate violations of this chapter:

A. Motor Vehicles.

1. Off-Highway Vehicles.

a. No person shall operate an off-highway vehicle unless it is equipped with a USDA-qualified spark arrester and a constantly operating and properly maintained muffler. A muffler is not considered constantly operating and properly maintained if it is equipped with a cutout, bypass or similar device.

b. No person shall operate an off-highway vehicle unless the noise emitted by the vehicle is not more than 96 dBA if the vehicle was manufactured on or after January 1, 1986 or is not more than 101 dBA if the vehicle was manufactured before January 1, 1986. For purposes of this subsection, emitted noise shall be measured a distance of 20 inches from the vehicle tailpipe using test procedures established by the Society of Automotive Engineers under Standard J-1287.

2. Sound Systems. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, between the hours of 10:00 p.m. and 8:00 a.m., such that the sound system is audible to the human ear inside any inhabited dwelling. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, at any other time such that the sound system is audible to the human ear at a distance greater than 100 feet from the vehicle.

B. Power Tools and Equipment. No person shall operate any power tools or equipment between the hours of 10:00 p.m. and 8:00 a.m. such that the power tools or equipment are audible to the human ear inside an inhabited dwelling other than a dwelling in which the power tools or equipment may be located. No person shall operate any power tools or equipment at any other time such that the power tools or equipment are audible to the human ear at a distance greater than 100 feet from the power tools or equipment.

C. Audio Equipment. No person shall operate any audio equipment, whether portable or not, between the hours of 10:00 p.m. and 8:00 a.m. such that the equipment is audible to the human ear inside an inhabited dwelling other than a dwelling in which the equipment may be located. No person shall operate any audio equipment, whether portable or not, at any other time such that the equipment is audible to the human ear at a distance greater than 100 feet from the equipment.

D. Sound-Amplifying Equipment and Live Music. No person shall install, use or operate sound-amplifying equipment, or perform, or allow to be performed, live music unless such activities comply with the following requirements. To the extent that these requirements conflict with any conditions of approval attached to an underlying land use permit, these requirements shall control:

1. Sound-amplifying equipment or live music is prohibited between the hours of 10:00 p.m. and 8:00 a.m.

2. Sound emanating from sound-amplifying equipment or live music at any other time shall not be audible to the human ear at a distance greater than 200 feet from the equipment or music. (Ord. 18 § 2, 2008, RCC § 9.52.060)

9.48.070 Exceptions.

Exceptions may be requested from the standards set forth in Section 9.48.040 or 9.48.060 of this chapter and may be characterized as construction-related, single-event or continuous-events exceptions.

A. Application and Processing.

1. Construction-Related Exceptions. An application for a construction-related exception shall be made to and considered by the Director of Building and Safety on forms provided by the Building and Safety Department and shall be accompanied by the appropriate filing fee. No public hearing is required.

2. Single-Event Exceptions. An application for a single-event exception shall be made to and considered by the Planning Director on forms provided by the Planning Department and shall be accompanied by the appropriate filing fee. No public hearing is required.

3. Continuous-Events Exceptions. An application for a continuous-events exception shall be made to the Planning Director on forms provided by the Planning Department and shall be accompanied by the appropriate

filing fee. Upon receipt of an application for a continuous-events exception, the Planning Director shall set the matter for public hearing before the Planning Commission, notice of which shall be given as provided in Title 17. Notwithstanding the above, an application for a continuous-events exception that is associated with an application for a land use permit shall be processed concurrently with the land use permit in the same manner that the land use permit is required to be processed.

B. Requirements for Approval. The appropriate decision-making body or officer shall not approve an exception application unless the applicant demonstrates that the activities described in the application would not be detrimental to the health, safety or general welfare of the community. In determining whether activities are detrimental to the health, safety or general welfare of the community, the appropriate decision-making body or officer shall consider such factors as the proposed duration of the activities and their location in relation to sensitive receptors. If an exception application is approved, reasonable conditions may be imposed to minimize the public detriment, including, but not limited to, restrictions on sound level, sound duration and operating hours.

C. Appeals. The Director of Building and Safety's decision on an application for a construction-related exception is considered final. The Planning Director's decision on an application for a single-event exception is considered final. After making a decision on an application for a continuous-events exception, the appropriate decision-making body or officer shall mail notice of the decision to the applicant. Within 10 calendar days after the mailing of such notice, the applicant or an interested person may appeal the decision to the City Council. Upon receipt of an appeal and payment of the appropriate appeal fee, the City Clerk shall set the matter for hearing not less than five days nor more than 30 days thereafter and shall give written notice of the hearing in the same manner as notice of the hearing was given by the appropriate hearing officer or body. The City Council shall render its decision within 30 days after the appeal hearing is closed.

D. Effect of a Pending Continuous-Events Exception Application. For a period of 180 days from the effective date of the ordinance codified in this chapter, no person creating any sound prohibited by this chapter shall be considered in violation of this chapter if the sound is related to a use that is operating pursuant to an approved land use permit, if an application for a continuous-events exception has been filed to sanction the sound and if a decision on the application is pending. (Ord. 18 § 2, 2008, RCC § 9.52.070)

9.48.080 Enforcement.

The Chief of Police and Code Enforcement Department shall have the primary responsibility for enforcing this chapter; provided, however, the Chief of Police and Code Enforcement Department may be assisted by the Public Health Department. Violations shall be prosecuted as described in Section 9.48.100 of this chapter, but nothing in this chapter shall prevent the Chief of Police, Code Enforcement or the Department of

Public Health from engaging in efforts to obtain voluntary compliance by means of warnings, notices, or educational programs. (Ord. 18 § 2, 2008, RCC § 9.52.080)

9.48.090 Duty to cooperate.

No person shall refuse to cooperate with, or obstruct, the enforcement officials identified in Section 9.48.080 of this chapter when they are engaged in the process of enforcing the provisions of this chapter. This duty to cooperate may require a person to extinguish a sound source so that it can be determined whether sound emanating from the source violates the provisions of this chapter. (Ord. 18 § 2, 2008, RCC § 9.52.090)

9.48.100 Violations and penalties.

Any person who violates any provision of this chapter once or twice within a 180-day period shall be guilty of an infraction. Any person who violates any provision of this chapter more than twice within a 180-day period shall be guilty of a misdemeanor. Each day a violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. Penalties shall not exceed the following amounts:

A. For the first violation within a 180-day period, the minimum mandatory fine shall be $500.00.

B. For the second violation within a 180-day period, the minimum mandatory fine shall be $750.00.

C. For any further violations within a 180-day period, the minimum mandatory fine shall be $1,000.00 or imprisonment for a period not exceeding six months, or both. (Ord. 18 § 2, 2008, RCC § 9.52.100)

View the mobile version.

APPENDIX 5.1:

STUDY AREA PHOTOS

This page intentionally left blank

JN: 14362 Study Area Photos



L1_E
33, 36' 1.600000"117, 14' 35.120000"



L1_N
33, 36' 1.710000"117, 14' 35.140000"



L1_S
33, 36' 1.660000"117, 14' 35.140000"



L1_W
33, 36' 1.560000"117, 14' 35.120000"



L2_E
33, 36' 0.320000"117, 14' 28.280000"



L2_N
33, 36' 0.340000"117, 14' 28.300000"

JN: 14362 Study Area Photos



L2_S
33, 36' 0.320000"117, 14' 28.300000"



L2_W
33, 36' 0.320000"117, 14' 28.250000"



L3_E
33, 35' 49.040000"117, 14' 26.710000"



L3_N
33, 35' 49.060000"117, 14' 26.710000"



L3_S
33, 35' 49.040000"117, 14' 26.680000"



L3_W
33, 35' 49.060000"117, 14' 26.710000"

JN: 14362 Study Area Photos



L4_E
33, 35' 55.390000"117, 14' 33.470000"



L4_N
33, 35' 55.350000"117, 14' 33.440000"



L4_S
33, 35' 55.350000"117, 14' 33.470000"



L4_W
33, 35' 55.370000"117, 14' 33.410000"

This page intentionally left blank

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

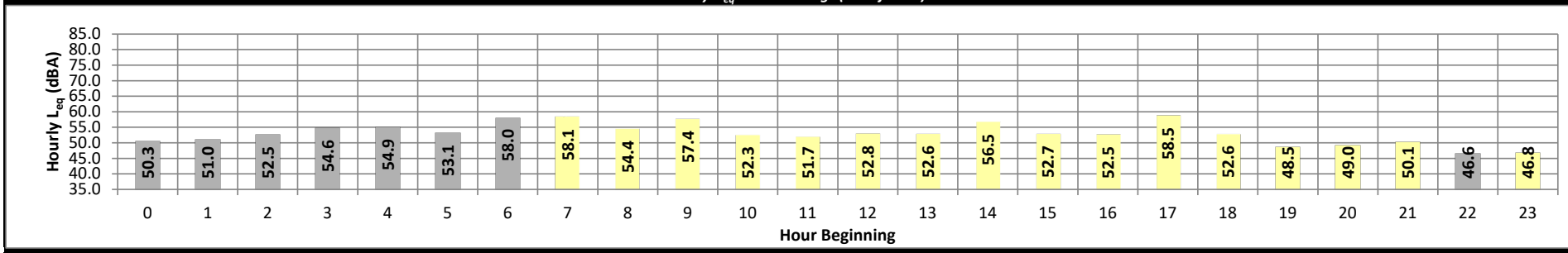
This page intentionally left blank

24-Hour Noise Level Measurement Summary

Date: Thursday, December 16, 2021 *Location:* L1 - Located northwest of the Project site near walled off *Meter:* Piccolo II *JN:* 14362

Project: Clinton Keith Mixed JSE *Source:* sensitive habitat east of Poplar Crest Road. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	50.3	54.1	47.4	53.8	53.6	52.8	52.2	50.9	49.9	48.2	47.9	47.5	50.3	10.0	60.3
	1	51.0	55.3	46.7	55.0	54.8	54.1	53.6	51.9	50.4	47.9	47.4	46.9	51.0	10.0	61.0
	2	52.5	57.3	47.4	57.0	56.8	56.2	55.6	53.5	51.8	48.7	48.1	47.6	52.5	10.0	62.5
	3	54.6	59.7	50.2	59.4	59.0	58.1	57.3	55.5	53.7	51.4	50.8	50.4	54.6	10.0	64.6
	4	54.9	59.3	51.8	59.1	58.8	57.8	57.0	55.6	54.5	52.6	52.3	51.9	54.9	10.0	64.9
	5	53.1	58.8	50.7	58.5	58.1	56.9	55.8	53.1	52.1	51.1	50.9	50.7	53.1	10.0	63.1
	6	58.0	65.7	54.7	65.4	65.1	63.6	60.9	57.6	56.1	55.2	55.0	54.8	58.0	10.0	68.0
Day	7	58.1	64.6	54.9	64.2	63.9	62.9	61.7	58.2	56.7	55.4	55.2	55.0	58.1	0.0	58.1
	8	54.4	62.6	50.0	62.2	61.5	59.8	58.4	54.1	52.1	50.5	50.3	50.1	54.4	0.0	54.4
	9	57.4	67.3	47.6	67.1	66.7	64.6	63.0	57.0	51.2	48.7	48.1	47.7	57.4	0.0	57.4
	10	52.3	61.4	46.8	61.0	60.2	57.6	56.2	52.0	49.9	47.8	47.5	47.0	52.3	0.0	52.3
	11	51.7	60.1	44.8	59.9	59.4	57.7	56.0	51.7	49.0	46.1	45.6	44.9	51.7	0.0	51.7
	12	52.8	62.0	45.6	61.6	61.1	58.9	56.9	52.5	49.8	46.7	46.2	45.7	52.8	0.0	52.8
	13	52.6	61.6	44.8	61.3	60.8	58.9	56.9	52.6	49.8	46.1	45.3	44.9	52.6	0.0	52.6
	14	56.5	64.7	49.1	64.4	64.1	62.7	61.7	56.7	52.0	49.9	49.6	49.2	56.5	0.0	56.5
	15	52.7	61.4	47.6	61.1	60.5	58.5	57.0	52.1	49.9	48.2	48.0	47.7	52.7	0.0	52.7
	16	52.5	61.5	45.8	61.2	60.8	59.1	57.3	52.1	48.7	46.4	46.1	45.9	52.5	0.0	52.5
	17	58.5	67.7	47.0	67.3	66.9	65.1	63.8	58.7	55.0	49.0	47.6	47.3	58.5	0.0	58.5
	18	52.6	63.3	42.0	62.8	62.3	59.5	57.6	52.0	47.2	42.7	42.4	42.1	52.6	0.0	52.6
	19	48.5	58.4	41.8	57.9	57.3	55.1	53.5	47.6	44.3	42.4	42.1	41.9	48.5	5.0	53.5
	20	49.0	58.0	43.5	57.6	57.0	55.2	53.6	48.2	45.7	44.2	43.9	43.6	49.0	5.0	54.0
	21	50.1	61.0	42.9	60.5	59.9	57.6	54.6	47.7	45.3	43.5	43.2	42.9	50.1	5.0	55.1
Night	22	46.6	56.7	40.2	56.4	55.8	53.4	50.9	44.8	42.6	41.0	40.6	40.3	46.6	10.0	56.6
	23	46.8	52.7	43.2	52.4	52.1	51.0	50.1	46.9	45.5	43.9	43.6	43.3	46.8	10.0	56.8

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	48.5	58.0	41.8	57.6	57.0	55.1	53.5	47.6	44.3	42.4	42.1	41.9
	Max	58.5	67.7	54.9	67.3	66.9	65.1	63.8	58.7	56.7	55.4	55.2	55.0
Energy Average		54.4	Average:		62.0	61.5	59.5	57.9	52.9	49.8	47.2	46.8	46.4
Night	Min	46.6	52.7	40.2	52.4	52.1	51.0	50.1	44.8	42.6	41.0	40.6	40.3
	Max	58.0	65.7	54.7	65.4	65.1	63.6	60.9	57.6	56.1	55.2	55.0	54.8
Energy Average		53.3	Average:		57.5	57.1	56.0	54.8	52.2	50.7	48.9	48.5	48.1

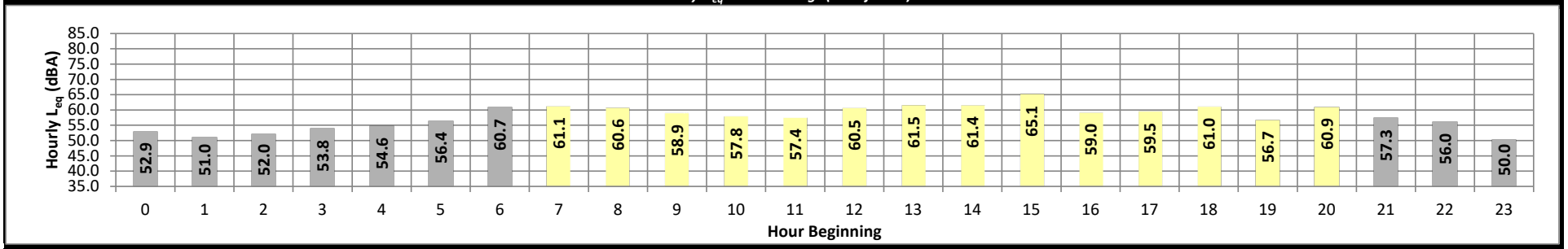
L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
54.0	**54.4**	**53.3**

24-Hour Noise Level Measurement Summary

Date: Thursday, December 16, 2021 *Location:* L2 - Located northeast of the Project site near single-family *Meter:* Piccolo II *JN:* 14362

Project: Clinton Keith Mixed JSE *Source:* residence at 35925 Susan Drive. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	52.9	63.1	47.1	62.7	62.1	59.6	57.2	51.2	49.6	47.9	47.5	47.2	52.9	10.0	62.9
	1	51.0	61.2	45.2	60.9	60.5	57.6	54.3	49.9	47.8	46.1	45.8	45.3	51.0	10.0	61.0
	2	52.0	59.9	45.7	59.5	59.0	56.9	55.1	52.4	50.3	46.9	46.4	45.8	52.0	10.0	62.0
	3	53.8	61.6	48.5	61.3	60.7	59.0	57.3	54.0	52.1	49.7	49.2	48.7	53.8	10.0	63.8
	4	54.6	62.8	50.6	62.5	61.9	59.5	57.6	54.5	52.8	51.3	51.0	50.7	54.6	10.0	64.6
	5	56.4	65.5	51.6	65.2	64.7	62.4	60.2	55.7	53.7	52.2	52.0	51.7	56.4	10.0	66.4
	6	60.7	70.6	55.1	69.9	69.1	66.7	65.1	59.7	57.2	55.6	55.4	55.1	60.7	10.0	70.7
Day	7	61.1	69.8	52.8	69.4	68.8	67.1	65.6	61.6	58.1	53.8	53.4	52.9	61.1	0.0	61.1
	8	60.6	71.0	48.1	70.7	70.0	67.8	65.6	59.9	55.9	49.3	48.8	48.2	60.6	0.0	60.6
	9	58.9	69.1	46.1	68.7	68.0	65.2	63.5	59.1	54.6	47.4	46.8	46.2	58.9	0.0	58.9
	10	57.8	68.7	46.5	68.3	67.6	64.6	62.5	57.1	52.6	47.9	47.3	46.7	57.8	0.0	57.8
	11	57.4	66.9	44.6	66.5	66.0	64.1	62.5	57.6	53.1	46.4	45.5	44.8	57.4	0.0	57.4
	12	60.5	72.4	47.1	72.0	71.1	67.7	64.7	59.0	54.6	48.8	48.0	47.3	60.5	0.0	60.5
	13	61.5	74.1	47.3	73.6	72.7	68.3	64.9	59.1	55.4	49.8	48.5	47.5	61.5	0.0	61.5
	14	61.4	73.6	48.4	73.0	72.1	68.3	65.2	59.9	55.9	50.9	49.8	48.6	61.4	0.0	61.4
	15	65.1	77.8	49.7	77.5	76.9	73.5	68.9	59.8	55.7	50.8	50.2	49.8	65.1	0.0	65.1
	16	59.0	68.1	48.8	67.7	66.9	65.0	63.7	59.7	55.5	49.7	49.3	48.9	59.0	0.0	59.0
	17	59.5	69.6	47.4	69.2	68.6	66.0	64.4	59.5	54.5	48.4	48.0	47.5	59.5	0.0	59.5
	18	61.0	73.0	45.8	72.6	71.8	68.6	65.5	58.9	53.9	47.1	46.4	45.9	61.0	0.0	61.0
	19	56.7	67.0	43.6	66.6	66.1	63.8	62.1	56.2	50.3	44.6	44.2	43.7	56.7	5.0	61.7
	20	60.9	73.4	44.2	72.9	72.2	68.8	66.7	56.0	50.7	45.1	44.7	44.3	60.9	5.0	65.9
	21	57.3	70.0	45.0	69.5	68.4	64.6	61.8	54.0	48.8	45.9	45.5	45.1	57.3	5.0	62.3
Night	22	56.0	69.1	41.5	68.7	67.6	63.7	60.2	51.6	45.8	42.2	41.9	41.6	56.0	10.0	66.0
	23	50.0	61.2	42.5	60.9	60.4	57.5	54.6	47.2	44.8	43.1	42.8	42.6	50.0	10.0	60.0

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	56.7	66.9	43.6	66.5	66.0	63.8	61.8	54.0	48.8	44.6	44.2	43.7
	Max	65.1	77.8	52.8	77.5	76.9	73.5	68.9	61.6	58.1	53.8	53.4	52.9
Energy Average		60.4	Average:		70.6	69.8	66.9	64.5	58.5	54.0	48.4	47.7	47.2
Night	Min	50.0	59.9	41.5	59.5	59.0	56.9	54.3	47.2	44.8	42.2	41.9	41.6
	Max	60.7	70.6	55.1	69.9	69.1	66.7	65.1	59.7	57.2	55.6	55.4	55.1
Energy Average		55.4	Average:		63.5	62.9	60.3	57.9	52.9	50.5	48.3	48.0	47.6

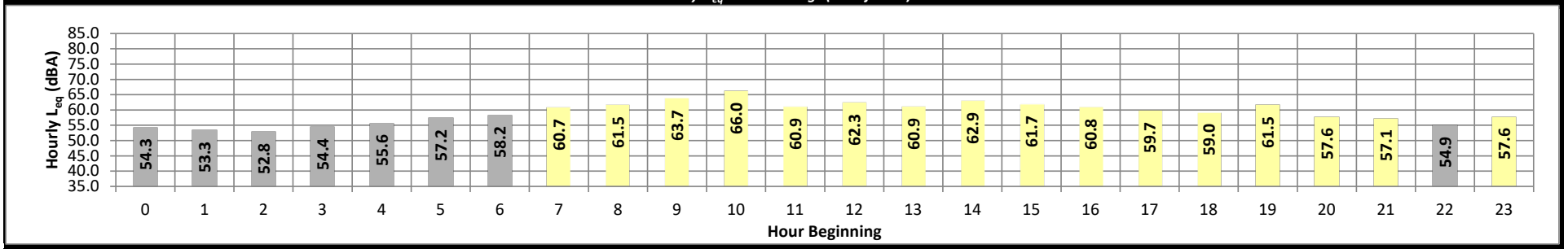
L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
59.2	**60.4**	**55.4**

24-Hour Noise Level Measurement Summary

Date: Thursday, December 16, 2021 *Location:* L3 - Located southeast of the Project site near Oak Springs *Meter:* Piccolo II *JN:* 14362

Project: Clinton Keith Mixed JSE *Source:* Ranch at 24055 Clinton Keith Road. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	54.3	60.8	48.3	60.6	60.4	59.7	59.1	54.6	51.6	49.3	48.9	48.5	54.3	10.0	64.3
	1	53.3	59.6	48.4	59.2	58.6	57.3	56.5	54.0	52.2	49.7	49.1	48.5	53.3	10.0	63.3
	2	52.8	60.6	46.9	60.1	59.4	57.5	56.2	53.6	51.0	48.1	47.5	47.0	52.8	10.0	62.8
	3	54.4	60.7	48.7	60.2	59.7	58.6	57.8	55.1	53.2	50.1	49.5	48.9	54.4	10.0	64.4
	4	55.6	63.9	50.1	63.4	62.8	61.3	60.0	55.0	53.1	51.0	50.6	50.2	55.6	10.0	65.6
	5	57.2	67.0	51.5	66.3	65.7	62.9	60.8	56.7	54.4	52.3	52.0	51.6	57.2	10.0	67.2
	6	58.2	66.6	53.6	66.2	65.5	63.5	61.7	58.1	56.2	54.3	54.0	53.7	58.2	10.0	68.2
Day	7	60.7	70.2	54.1	69.6	68.9	66.6	64.7	60.3	57.9	55.1	54.7	54.3	60.7	0.0	60.7
	8	61.5	71.6	52.6	71.2	70.5	68.3	66.4	60.9	57.6	53.6	53.1	52.7	61.5	0.0	61.5
	9	63.7	76.8	51.3	75.7	74.9	71.1	67.9	60.5	56.7	52.5	52.0	51.4	63.7	0.0	63.7
	10	66.0	74.3	55.4	74.0	73.7	72.5	71.0	67.1	61.9	57.0	56.5	55.6	66.0	0.0	66.0
	11	60.9	71.2	51.4	70.8	70.2	68.1	65.7	59.9	56.5	52.8	52.2	51.6	60.9	0.0	60.9
	12	62.3	71.8	53.4	71.4	70.6	68.3	66.5	62.0	59.6	54.8	54.1	53.6	62.3	0.0	62.3
	13	60.9	71.2	51.4	70.9	70.4	68.1	65.7	59.9	56.7	52.9	52.3	51.6	60.9	0.0	60.9
	14	62.9	73.7	53.1	73.2	72.8	70.4	67.3	61.4	57.8	54.2	53.7	53.2	62.9	0.0	62.9
	15	61.7	72.3	52.9	71.9	71.3	69.2	66.4	60.1	57.3	54.0	53.5	53.0	61.7	0.0	61.7
	16	60.8	70.3	52.6	69.7	68.9	66.8	65.6	60.7	57.6	53.8	53.3	52.7	60.8	0.0	60.8
	17	59.7	69.6	50.8	69.1	68.6	66.8	64.2	59.2	56.1	52.0	51.5	50.9	59.7	0.0	59.7
	18	59.0	68.3	50.0	67.8	67.4	65.2	63.5	59.2	56.0	51.3	50.7	50.1	59.0	0.0	59.0
	19	61.5	72.8	49.7	72.4	71.7	69.3	66.7	59.0	55.1	50.9	50.4	49.8	61.5	5.0	66.5
	20	57.6	67.9	48.6	67.3	66.5	64.3	62.5	57.2	53.2	49.5	49.1	48.7	57.6	5.0	62.6
	21	57.1	67.5	47.8	67.2	66.6	64.7	62.5	55.6	51.9	48.9	48.5	48.0	57.1	5.0	62.1
Night	22	54.9	64.3	44.8	64.0	63.6	62.1	60.5	54.3	50.3	46.1	45.4	45.0	54.9	10.0	64.9
	23	57.6	69.0	45.5	68.6	68.2	66.0	62.7	53.7	50.2	46.4	46.0	45.6	57.6	10.0	67.6

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	57.1	67.5	47.8	67.2	66.5	64.3	62.5	55.6	51.9	48.9	48.5	48.0
	Max	66.0	76.8	55.4	75.7	74.9	72.5	71.0	67.1	61.9	57.0	56.5	55.6
Energy Average		61.7	Average:		70.8	70.2	68.0	65.8	60.2	56.8	52.9	52.4	51.8
Night	Min	52.8	59.6	44.8	59.2	58.6	57.3	56.2	53.6	50.2	46.1	45.4	45.0
	Max	58.2	69.0	53.6	68.6	68.2	66.0	62.7	58.1	56.2	54.3	54.0	53.7
Energy Average		55.8	Average:		63.2	62.7	61.0	59.5	55.0	52.5	49.7	49.2	48.8

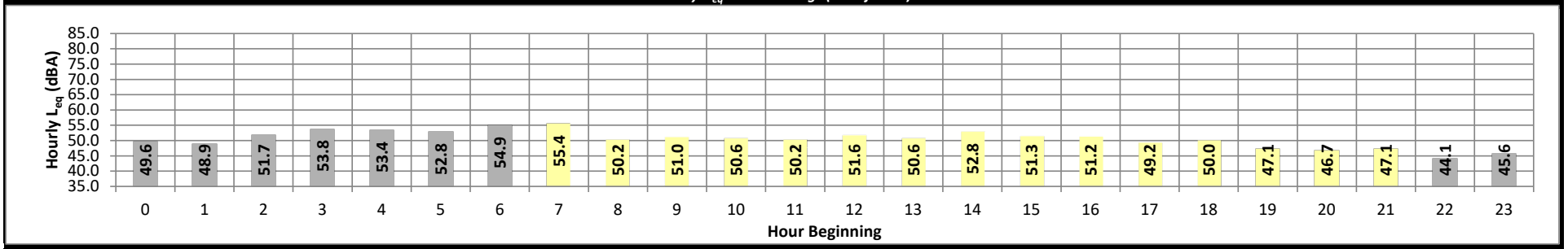
L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
60.2	**61.7**	**55.8**

24-Hour Noise Level Measurement Summary

Date: Thursday, December 16, 2021 *Location:* L4 - Located west of the Project site near single-family *Meter:* Piccolo II *JN:* 14362

Project: Clinton Keith Mixed JSE *Source:* residence at 24900 Catt Road. *Analyst:* A. Khan

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	49.6	52.8	46.7	52.6	52.4	51.9	51.5	50.3	49.3	47.6	47.3	46.9	49.6	10.0	59.6
	1	48.9	53.2	45.9	53.0	52.7	52.2	51.4	49.5	48.4	46.8	46.4	46.0	48.9	10.0	58.9
	2	51.7	57.9	45.7	57.5	57.1	55.9	55.2	52.6	50.4	47.1	46.5	45.9	51.7	10.0	61.7
	3	53.8	58.9	49.2	58.5	58.0	57.2	56.7	54.6	53.0	50.4	49.9	49.4	53.8	10.0	63.8
	4	53.4	57.4	50.5	57.1	56.8	56.0	55.5	53.9	52.8	51.3	51.0	50.6	53.4	10.0	63.4
	5	52.8	56.1	50.4	55.9	55.6	54.9	54.5	53.4	52.4	51.1	50.8	50.5	52.8	10.0	62.8
	6	54.9	57.0	53.4	56.9	56.7	56.3	56.1	55.2	54.7	53.9	53.7	53.5	54.9	10.0	64.9
Day	7	55.4	59.6	52.8	59.4	59.2	58.8	58.1	55.8	54.6	53.3	53.1	52.8	55.4	0.0	55.4
	8	50.2	55.6	47.2	55.3	54.9	54.1	53.2	50.5	49.0	47.8	47.6	47.4	50.2	0.0	50.2
	9	51.0	56.6	45.7	56.3	56.0	55.1	54.4	52.3	49.9	46.7	46.1	45.8	51.0	0.0	51.0
	10	50.6	55.5	46.5	55.2	54.7	53.6	53.1	51.6	49.9	47.5	47.2	46.7	50.6	0.0	50.6
	11	50.2	55.9	44.7	55.6	55.2	54.1	53.4	51.2	49.0	46.0	45.6	44.9	50.2	0.0	50.2
	12	51.6	57.8	46.1	57.4	57.1	56.0	55.2	52.7	50.0	47.3	46.7	46.3	51.6	0.0	51.6
	13	50.6	56.3	45.2	55.9	55.4	54.4	53.7	51.6	49.7	46.4	45.9	45.3	50.6	0.0	50.6
	14	52.8	59.6	47.5	59.2	58.7	57.9	57.3	53.4	50.4	48.4	48.0	47.6	52.8	0.0	52.8
	15	51.3	56.3	48.2	56.0	55.6	54.5	53.8	51.9	50.6	48.9	48.6	48.3	51.3	0.0	51.3
	16	51.2	56.8	47.3	56.4	56.1	55.2	54.5	51.9	49.9	48.0	47.7	47.5	51.2	0.0	51.2
	17	49.2	55.0	44.9	54.7	54.3	53.4	52.5	50.1	47.8	45.7	45.4	45.1	49.2	0.0	49.2
	18	50.0	56.1	44.3	55.8	55.5	54.5	53.8	51.3	48.3	45.1	44.7	44.4	50.0	0.0	50.0
	19	47.1	54.8	42.5	54.5	54.0	52.8	51.5	46.7	45.0	43.3	42.9	42.6	47.1	5.0	52.1
	20	46.7	53.4	42.5	53.0	52.7	51.3	50.3	47.2	45.2	43.1	42.9	42.6	46.7	5.0	51.7
	21	47.1	52.7	43.5	52.3	51.9	50.8	50.2	47.7	46.1	44.3	43.9	43.6	47.1	5.0	52.1
Night	22	44.1	50.1	40.2	49.7	49.2	48.3	47.6	44.4	42.7	40.9	40.6	40.3	44.1	10.0	54.1
	23	45.6	52.8	41.7	52.3	51.9	50.0	48.6	45.7	44.1	42.5	42.2	41.8	45.6	10.0	55.6

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	46.7	52.7	42.5	52.3	51.9	50.8	50.2	46.7	45.0	43.1	42.9	42.6
	Max	55.4	59.6	52.8	59.4	59.2	58.8	58.1	55.8	54.6	53.3	53.1	52.8
Energy Average		50.9	Average:		55.8	55.4	54.4	53.7	51.1	49.0	46.8	46.4	46.1
Night	Min	44.1	50.1	40.2	49.7	49.2	48.3	47.6	44.4	42.7	40.9	40.6	40.3
	Max	54.9	58.9	53.4	58.5	58.0	57.2	56.7	55.2	54.7	53.9	53.7	53.5
Energy Average		51.7	Average:		54.8	54.5	53.6	53.0	51.1	49.7	47.9	47.6	47.2

L_{eq} (dBA)		
24-Hour	Daytime (7am-10pm)	Nighttime (10pm-7am)
51.2	**50.9**	**51.7**

APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE LEVEL CALCULATIONS

This page intentionally left blank

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Inland Valley Dr.
Road Segment: s/o Clinton Keith Rd.
Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,150 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	815 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.84	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-20.08	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-24.03	0.34	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.7	61.4	55.4	63.8	64.4
Medium Trucks:	58.5	54.6	47.1	55.9	62.0	62.1
Heavy Trucks:	59.4	55.3	51.9	56.6	62.8	62.9
Vehicle Noise:	66.6	64.0	62.0	60.7	67.7	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	163	351
CNEL:	37	79	171	368

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Clinton Keith Rd.
Road Segment: w/o Arya Rd.
Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,200 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,920 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.70	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-14.54	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.49	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	66.1	64.8	58.8	67.2	67.8
Medium Trucks:	61.9	58.0	50.5	59.2	65.4	65.4
Heavy Trucks:	62.7	58.7	55.3	59.9	66.1	66.2
Vehicle Noise:	69.9	67.4	65.4	64.1	71.1	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	90	193	416	896
CNEL:	94	202	436	939

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Clinton Keith Rd.
Road Segment: w/o Wildomar Tr.
Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,880 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,488 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.01	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-15.23	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.19	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	65.4	64.1	58.1	66.5	67.1
Medium Trucks:	61.2	57.3	49.8	58.5	64.7	64.7
Heavy Trucks:	62.0	58.0	54.6	59.2	65.4	65.5
Vehicle Noise:	69.3	66.7	64.7	63.4	70.4	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	81	173	374	805
CNEL:	84	182	392	844

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Clinton Keith Rd.
Road Segment: e/o Wildomar Tr.
Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,100 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,410 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.87	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-15.37	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.33	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	65.3	64.0	57.9	66.4	67.0
Medium Trucks:	61.0	57.1	49.6	58.4	64.6	64.6
Heavy Trucks:	61.9	57.8	54.4	59.1	65.3	65.4
Vehicle Noise:	69.1	66.5	64.6	63.3	70.2	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	79	170	366	788
CNEL:	83	178	384	826

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing
Road Name: Clinton Keith Rd.
Road Segment: e/o Inland Valley Dr.
Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,470 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,847 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.71	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-16.52	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-20.48	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.1	64.1	62.8	56.8	65.2	65.8
Medium Trucks:	59.9	56.0	48.5	57.2	63.4	63.4
Heavy Trucks:	60.7	56.7	53.3	57.9	64.1	64.2
Vehicle Noise:	68.0	65.4	63.4	62.1	69.1	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	142	306	660
CNEL:	69	149	321	692

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P
Road Name: Inland Valley Dr.
Road Segment: s/o Clinton Keith Rd.
Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,850 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	885 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.48	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-19.72	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-23.68	0.34	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.1	63.1	61.8	55.8	64.2	64.8
Medium Trucks:	58.9	55.0	47.5	56.2	62.4	62.4
Heavy Trucks:	59.7	55.7	52.3	56.9	63.1	63.2
Vehicle Noise:	66.9	64.3	62.4	61.1	68.1	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	37	80	172	371
CNEL:	39	84	181	389

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P
Road Name: Clinton Keith Rd.
Road Segment: w/o Arya Rd.
Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	30,930 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,093 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.95	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-14.29	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.24	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	66.3	65.0	59.0	67.4	68.1
Medium Trucks:	62.1	58.2	50.7	59.5	65.6	65.7
Heavy Trucks:	63.0	58.9	55.5	60.2	66.4	66.5
Vehicle Noise:	70.2	67.6	65.6	64.4	71.3	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	93	201	432	931
CNEL:	98	210	453	976

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P
Road Name: Clinton Keith Rd.
Road Segment: w/o Wildomar Tr.
Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,730 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,573 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.15	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-15.08	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-19.04	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.5	64.2	58.2	66.6	67.3
Medium Trucks:	61.3	57.4	49.9	58.7	64.8	64.9
Heavy Trucks:	62.2	58.1	54.7	59.4	65.6	65.7
Vehicle Noise:	69.4	66.8	64.8	63.6	70.5	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	82	177	382	824
CNEL:	86	186	401	863

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P | Project Name: Wildomar Crossroads
Road Name: Clinton Keith Rd. | Job Number: 14362
Road Segment: e/o Wildomar Tr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,270 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	2,627 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	2.24	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-14.99	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-18.95	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	65.6	64.3	58.3	66.7	67.4
Medium Trucks:	61.4	57.5	50.0	58.8	64.9	65.0
Heavy Trucks:	62.3	58.2	54.8	59.5	65.7	65.8
Vehicle Noise:	69.5	66.9	64.9	63.6	70.6	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	84	180	388	835
CNEL:	88	189	406	875

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: E+P | Project Name: Wildomar Crossroads
Road Name: Clinton Keith Rd. | Job Number: 14362
Road Segment: e/o Inland Valley Dr.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,940 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,994 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	1.05	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-16.19	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-20.15	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.4	63.1	57.1	65.5	66.2
Medium Trucks:	60.2	56.3	48.8	57.6	63.7	63.8
Heavy Trucks:	61.1	57.0	53.6	58.3	64.5	64.6
Vehicle Noise:	68.3	65.7	63.7	62.4	69.4	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	69	150	323	695
CNEL:	73	157	338	728

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative | Project Name: Wildomar Crossroads
Road Name: Inland Valley Dr. | Job Number: 14362
Road Segment: s/o Clinton Keith Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,460 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,546 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.06	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-17.30	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-21.25	0.34	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.5	64.2	58.2	66.6	67.2
Medium Trucks:	61.3	57.4	49.9	58.6	64.8	64.9
Heavy Trucks:	62.1	58.1	54.7	59.3	65.5	65.6
Vehicle Noise:	69.4	66.8	64.8	63.5	70.5	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	250	539
CNEL:	56	122	262	564

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative | Project Name: Wildomar Crossroads
Road Name: Clinton Keith Rd. | Job Number: 14362
Road Segment: w/o Arya Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,890 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,889 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.94	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-12.30	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-16.25	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.3	68.3	67.0	61.0	69.4	70.1
Medium Trucks:	64.1	60.2	52.7	61.5	67.6	67.7
Heavy Trucks:	65.0	60.9	57.5	62.2	68.4	68.5
Vehicle Noise:	72.2	69.6	67.6	66.3	73.3	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	126	272	586	1,263
CNEL:	132	285	615	1,324

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Clinton Keith Rd.
Road Segment: w/o Wildomar Tr.

Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,210 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,421 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.50	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-12.73	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-16.69	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	67.9	66.6	60.6	69.0	69.6
Medium Trucks:	63.7	59.8	52.3	61.0	67.2	67.2
Heavy Trucks:	64.5	60.5	57.1	61.7	67.9	68.0
Vehicle Noise:	71.7	69.2	67.2	65.9	72.9	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	118	255	548	1,181
CNEL:	124	267	575	1,238

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Clinton Keith Rd.
Road Segment: e/o Wildomar Tr.

Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,550 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	4,455 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	4.54	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-12.70	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-16.66	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	67.9	66.6	60.6	69.0	69.7
Medium Trucks:	63.7	59.8	52.3	61.1	67.2	67.3
Heavy Trucks:	64.6	60.5	57.1	61.8	68.0	68.1
Vehicle Noise:	71.8	69.2	67.2	65.9	72.9	73.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	119	256	551	1,187
CNEL:	124	268	578	1,245

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative
Road Name: Clinton Keith Rd.
Road Segment: e/o Inland Valley Dr.

Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,550 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	3,655 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	3.68	-1.85	-1.20	-4.73	0.000	0.000
Medium Trucks:	79.45	-13.56	-1.84	-1.20	-4.88	0.000	0.000
Heavy Trucks:	84.25	-17.52	-1.84	-1.20	-5.25	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	67.1	65.8	59.7	68.2	68.8
Medium Trucks:	62.8	59.0	51.4	60.2	66.4	66.4
Heavy Trucks:	63.7	59.7	56.3	60.9	67.1	67.2
Vehicle Noise:	70.9	68.3	66.4	65.1	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	104	224	483	1,041
CNEL:	109	235	506	1,091

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative + P
Road Name: Inland Valley Dr.
Road Segment: s/o Clinton Keith Rd.

Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,160 vehicles
Peak Hour Percentage:	10.00%
Peak Hour Volume:	1,616 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	50.0 feet
Centerline Dist. to Observer:	50.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	46.915
Medium Trucks:	46.726
Heavy Trucks:	46.744

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.13	0.31	-1.20	-4.65	0.000	0.000
Medium Trucks:	79.45	-17.10	0.34	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-21.06	0.34	-1.20	-5.43	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	65.7	64.4	58.4	66.8	67.4
Medium Trucks:	61.5	57.6	50.1	58.8	65.0	65.0
Heavy Trucks:	62.3	58.3	54.9	59.5	65.7	65.8
Vehicle Noise:	69.5	67.0	65.0	63.7	70.7	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	120	257	555
CNEL:	58	125	270	581

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative + P
Road Name: Clinton Keith Rd.
Road Segment: w/o Arya Rd.

Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,620	vehicles
Peak Hour Percentage:	10.00%	
Peak Hour Volume:	5,062	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	5.09	-1.85	-1.20	*-4.73*	0.000	0.000
Medium Trucks:	79.45	-12.15	-1.84	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.10	-1.84	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.5	68.5	67.2	61.2	69.6	70.2
Medium Trucks:	64.3	60.4	52.9	61.6	67.8	67.8
Heavy Trucks:	65.1	61.1	57.7	62.3	68.5	68.6
Vehicle Noise:	72.3	69.7	67.8	66.5	73.5	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	129	279	600	1,293
CNEL:	136	292	629	1,355

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative + P
Road Name: Clinton Keith Rd.
Road Segment: w/o Wildomar Tr.

Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,060	vehicles
Peak Hour Percentage:	10.00%	
Peak Hour Volume:	4,506	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.59	-1.85	-1.20	*-4.73*	0.000	0.000
Medium Trucks:	79.45	-12.65	-1.84	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.61	-1.84	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.0	68.0	66.7	60.7	69.1	69.7
Medium Trucks:	63.8	59.9	52.4	61.1	67.3	67.3
Heavy Trucks:	64.6	60.6	57.2	61.8	68.0	68.1
Vehicle Noise:	71.8	69.2	67.3	66.0	73.0	73.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	120	258	555	1,197
CNEL:	125	270	582	1,254

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative + P
Road Name: Clinton Keith Rd.
Road Segment: e/o Wildomar Tr.

Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,720	vehicles
Peak Hour Percentage:	10.00%	
Peak Hour Volume:	4,672	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	4.74	-1.85	-1.20	*-4.73*	0.000	0.000
Medium Trucks:	79.45	-12.49	-1.84	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-16.45	-1.84	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	70.2	68.1	66.8	60.8	69.2	69.9
Medium Trucks:	63.9	60.0	52.5	61.3	67.4	67.5
Heavy Trucks:	64.8	60.7	57.3	62.0	68.2	68.3
Vehicle Noise:	72.0	69.4	67.4	66.1	73.1	73.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	123	264	569	1,226
CNEL:	128	277	596	1,285

Sunday, April 17, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Cumulative + P
Road Name: Clinton Keith Rd.
Road Segment: e/o Inland Valley Dr.

Project Name: Wildomar Crossroads
Job Number: 14362

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	38,020	vehicles
Peak Hour Percentage:	10.00%	
Peak Hour Volume:	3,802	vehicles
Vehicle Speed:	45	mph
Near/Far Lane Distance:	78	feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	76.0 feet
Centerline Dist. to Observer:	76.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	75.5%	14.0%	10.5%	97.42%
Medium Trucks:	48.9%	2.2%	48.9%	1.84%
Heavy Trucks:	47.3%	5.4%	47.3%	0.74%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.006	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	65.422
Medium Trucks:	65.286
Heavy Trucks:	65.300

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	68.46	3.85	-1.85	-1.20	*-4.73*	0.000	0.000
Medium Trucks:	79.45	-13.39	-1.84	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	84.25	-17.35	-1.84	-1.20	*-5.25*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	69.3	67.2	65.9	59.9	68.3	69.0
Medium Trucks:	63.0	59.1	51.6	60.4	66.5	66.6
Heavy Trucks:	63.9	59.8	56.4	61.1	67.3	67.4
Vehicle Noise:	71.1	68.5	66.5	65.3	72.2	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	107	230	496	1,068
CNEL:	112	241	520	1,120

Sunday, April 17, 2022

This page intentionally left blank

APPENDIX 8.1:

ON-SITE TRAFFIC NOISE LEVEL CALCULATIONS

This page intentionally left blank

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Wildomar Trail
Lot No: MF1

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	378.0 feet
Centerline Dist. to Observer:	378.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,340.9 feet
Road Elevation:	1,340.7 feet
Barrier Elevation:	1,340.9 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,342.700		
Medium Trucks:	1,344.700		
Heavy Trucks:	1,348.706	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	377.584
Medium Trucks:	377.573
Heavy Trucks:	377.582

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	1.21	-13.27	-1.20	-4.85	0.000	0.000
Medium Trucks:	77.62	-16.03	-13.27	-1.20	-4.88	0.000	0.000
Heavy Trucks:	82.14	-19.99	-13.27	-1.20	-4.93	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.4	55.0	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.2	46.4
Heavy Trucks:	47.7	46.3	37.2	38.5	46.8	47.0
Vehicle Noise:	57.1	55.3	52.7	47.5	56.1	56.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.4	55.0	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.2	46.4
Heavy Trucks:	47.7	46.3	37.2	38.5	46.8	47.0
Vehicle Noise:	57.1	55.3	52.7	47.5	56.1	56.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Wildomar Trail
Lot No: MF2

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	379.0 feet
Centerline Dist. to Observer:	379.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,340.4 feet
Road Elevation:	1,335.0 feet
Barrier Elevation:	1,340.4 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,337.000		
Medium Trucks:	1,339.000		
Heavy Trucks:	1,343.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	378.667
Medium Trucks:	378.627
Heavy Trucks:	378.580

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	1.21	-13.29	-1.20	-4.86	0.000	0.000
Medium Trucks:	77.62	-16.03	-13.29	-1.20	-4.89	0.000	0.000
Heavy Trucks:	82.14	-19.99	-13.29	-1.20	-4.94	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.3	55.0	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.1	46.4
Heavy Trucks:	47.7	46.2	37.2	38.5	46.8	46.9
Vehicle Noise:	57.1	55.3	52.7	47.5	56.1	56.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.3	55.0	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.1	46.4
Heavy Trucks:	47.7	46.2	37.2	38.5	46.8	46.9
Vehicle Noise:	57.1	55.3	52.7	47.5	56.1	56.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Clinton Keith
Lot No: MF3

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	414.0 feet
Centerline Dist. to Observer:	414.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,339.3 feet
Road Elevation:	1,330.0 feet
Barrier Elevation:	1,339.3 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,332.000		
Medium Trucks:	1,334.000		
Heavy Trucks:	1,338.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	412.342
Medium Trucks:	412.287
Heavy Trucks:	412.207

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	4.39	-13.85	-1.20	-4.75	0.000	0.000
Medium Trucks:	77.62	-12.84	-13.85	-1.20	-4.77	0.000	0.000
Heavy Trucks:	82.14	-16.80	-13.85	-1.20	-4.82	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.7	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	49.7	48.2	41.9	40.3	48.8	49.0
Heavy Trucks:	50.3	48.9	39.8	41.1	49.4	49.6
Vehicle Noise:	59.7	57.9	55.4	50.1	58.7	59.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.7	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	49.7	48.2	41.9	40.3	48.8	49.0
Heavy Trucks:	50.3	48.9	39.8	41.1	49.4	49.6
Vehicle Noise:	59.7	57.9	55.4	50.1	58.7	59.2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Clinton Keith
Lot No: MF4

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	312.0 feet
Centerline Dist. to Observer:	312.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,334.0 feet
Road Elevation:	1,330.0 feet
Barrier Elevation:	1,334.0 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,332.000		
Medium Trucks:	1,334.000		
Heavy Trucks:	1,338.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	309.632
Medium Trucks:	309.593
Heavy Trucks:	309.554

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	4.39	-11.98	-1.20	-4.82	0.000	0.000
Medium Trucks:	77.62	-12.84	-11.98	-1.20	-4.85	0.000	0.000
Heavy Trucks:	82.14	-16.80	-11.98	-1.20	-4.92	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.6	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	51.6	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	52.2	50.7	41.7	43.0	51.3	51.4
Vehicle Noise:	61.6	59.8	57.2	52.0	60.5	61.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.6	58.7	56.9	50.8	59.5	60.1
Medium Trucks:	51.6	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	52.2	50.7	41.7	43.0	51.3	51.4
Vehicle Noise:	61.6	59.8	57.2	52.0	60.5	61.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: First Floor With Wall
Road Name: Clinton Keith
Lot No: MF5

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	167.0 feet
Centerline Dist. to Observer:	167.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	1,333.9 feet
Road Elevation:	1,329.0 feet
Barrier Elevation:	133.9 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,331.000		
Medium Trucks:	1,333.000		
Heavy Trucks:	1,337.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	162.575
Medium Trucks:	162.490
Heavy Trucks:	162.394

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	4.39	-7.78	-1.20	-2,198.02	0.000	0.000
Medium Trucks:	77.62	-12.84	-7.78	-1.20	-2,200.04	0.000	0.000
Heavy Trucks:	82.14	-16.80	-7.78	-1.20	-2,204.01	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	62.9	61.1	55.0	63.7	64.3
Medium Trucks:	55.8	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	56.4	54.9	45.9	47.2	55.5	55.6
Vehicle Noise:	65.8	64.0	61.4	56.2	64.7	65.3

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	62.9	61.1	55.0	63.7	64.3
Medium Trucks:	55.8	54.3	47.9	46.4	54.8	55.1
Heavy Trucks:	56.4	54.9	45.9	47.2	55.5	55.6
Vehicle Noise:	65.8	64.0	61.4	56.2	64.7	65.3

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Wildomar Trail
Lot No: MF1

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	378.0 feet
Centerline Dist. to Observer:	378.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	15.0 feet
Pad Elevation:	1,340.9 feet
Road Elevation:	1,340.7 feet
Barrier Elevation:	1,340.9 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,342.700		
Medium Trucks:	1,344.700		
Heavy Trucks:	1,348.706	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	377.801
Medium Trucks:	377.736
Heavy Trucks:	377.639

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	1.21	-13.28	-1.20	-14.43	0.000	0.000
Medium Trucks:	77.62	-16.03	-13.28	-1.20	-14.50	0.000	0.000
Heavy Trucks:	82.14	-19.99	-13.28	-1.20	-14.66	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.4	55.0	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.2	46.4
Heavy Trucks:	47.7	46.3	37.2	38.5	46.8	47.0
Vehicle Noise:	57.1	55.3	52.7	47.5	56.1	56.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.4	55.0	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.2	46.4
Heavy Trucks:	47.7	46.3	37.2	38.5	46.8	47.0
Vehicle Noise:	57.1	55.3	52.7	47.5	56.1	56.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Wildomar Trail
Lot No: MF2

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	379.0 feet
Centerline Dist. to Observer:	379.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	15.0 feet
Pad Elevation:	1,340.4 feet
Road Elevation:	1,335.0 feet
Barrier Elevation:	1,340.4 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,337.000		
Medium Trucks:	1,339.000		
Heavy Trucks:	1,343.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	379.022
Medium Trucks:	378.930
Heavy Trucks:	378.777

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	1.21	-13.30	-1.20	-14.30	0.000	0.000
Medium Trucks:	77.62	-16.03	-13.30	-1.20	-14.38	0.000	0.000
Heavy Trucks:	82.14	-19.99	-13.29	-1.20	-14.53	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.3	55.0	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.1	46.4
Heavy Trucks:	47.7	46.2	37.2	38.5	46.8	46.9
Vehicle Noise:	57.1	55.3	52.7	47.5	56.0	56.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.3	55.0	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.1	46.4
Heavy Trucks:	47.7	46.2	37.2	38.5	46.8	46.9
Vehicle Noise:	57.1	55.3	52.7	47.5	56.0	56.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Clinton Keith
Lot No: MF3

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	414.0 feet
Centerline Dist. to Observer:	414.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	15.0 feet
Pad Elevation:	1,339.3 feet
Road Elevation:	1,330.0 feet
Barrier Elevation:	1,339.3 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,332.000		
Medium Trucks:	1,334.000		
Heavy Trucks:	1,338.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	412.760
Medium Trucks:	412.657
Heavy Trucks:	412.480

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	4.39	-13.85	-1.20	-14.12	0.000	0.000
Medium Trucks:	77.62	-12.84	-13.85	-1.20	-14.19	0.000	0.000
Heavy Trucks:	82.14	-16.80	-13.85	-1.20	-14.34	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.7	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	49.7	48.2	41.9	40.3	48.8	49.0
Heavy Trucks:	50.3	48.9	39.8	41.1	49.4	49.6
Vehicle Noise:	59.7	57.9	55.3	50.1	58.7	59.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.7	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	49.7	48.2	41.9	40.3	48.8	49.0
Heavy Trucks:	50.3	48.9	39.8	41.1	49.4	49.6
Vehicle Noise:	59.7	57.9	55.3	50.1	58.7	59.2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Clinton Keith
Lot No: MF4

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	312.0 feet
Centerline Dist. to Observer:	312.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	15.0 feet
Pad Elevation:	1,334.0 feet
Road Elevation:	1,330.0 feet
Barrier Elevation:	1,334.0 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,332.000		
Medium Trucks:	1,334.000		
Heavy Trucks:	1,338.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	310.019
Medium Trucks:	309.916
Heavy Trucks:	309.748

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	4.39	-11.99	-1.20	*-14.23*	0.000	0.000
Medium Trucks:	77.62	-12.84	-11.99	-1.20	*-14.32*	0.000	0.000
Heavy Trucks:	82.14	-16.80	-11.98	-1.20	*-14.51*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.5	58.6	56.9	50.8	59.5	60.1
Medium Trucks:	51.6	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	52.2	50.7	41.7	42.9	51.3	51.4
Vehicle Noise:	61.6	59.8	57.2	52.0	60.5	61.1

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.5	58.6	56.9	50.8	59.5	60.1
Medium Trucks:	51.6	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	52.2	50.7	41.7	42.9	51.3	51.4
Vehicle Noise:	61.6	59.8	57.2	52.0	60.5	61.1

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Second Floor With Wall
Road Name: Clinton Keith
Lot No: MF5

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	167.0 feet
Centerline Dist. to Observer:	167.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	15.0 feet
Pad Elevation:	1,333.9 feet
Road Elevation:	1,329.0 feet
Barrier Elevation:	133.9 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,331.000		
Medium Trucks:	1,333.000		
Heavy Trucks:	1,337.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	163.368
Medium Trucks:	163.161
Heavy Trucks:	162.819

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	4.39	-7.82	-1.20	*-2,207.05*	0.000	0.000
Medium Trucks:	77.62	-12.84	-7.81	-1.20	*-2,209.18*	0.000	0.000
Heavy Trucks:	82.14	-16.80	-7.79	-1.20	*-2,213.39*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	55.8	54.3	47.9	46.4	54.8	55.0
Heavy Trucks:	56.3	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	65.8	64.0	61.4	56.1	64.7	65.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.8	61.1	55.0	63.6	64.2
Medium Trucks:	55.8	54.3	47.9	46.4	54.8	55.0
Heavy Trucks:	56.3	54.9	45.9	47.1	55.5	55.6
Vehicle Noise:	65.8	64.0	61.4	56.1	64.7	65.2

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Third Floor With Wall
Road Name: Wildomar Trail
Lot No: MF1

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	378.0 feet
Centerline Dist. to Observer:	378.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	25.0 feet
Pad Elevation:	1,340.9 feet
Road Elevation:	1,340.7 feet
Barrier Elevation:	1,340.9 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,342.700		
Medium Trucks:	1,344.700		
Heavy Trucks:	1,348.706	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	378.281
Medium Trucks:	378.164
Heavy Trucks:	377.961

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	1.21	-13.29	-1.20	*-23.74*	0.000	0.000
Medium Trucks:	77.62	-16.03	-13.28	-1.20	*-23.87*	0.000	0.000
Heavy Trucks:	82.14	-19.99	-13.28	-1.20	*-24.13*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.3	55.0	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.2	46.4
Heavy Trucks:	47.7	46.3	37.2	38.5	46.8	46.9
Vehicle Noise:	57.1	55.3	52.7	47.5	56.1	56.6

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	54.2	52.4	46.3	55.0	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.2	46.4
Heavy Trucks:	47.7	46.3	37.2	38.5	46.8	46.9
Vehicle Noise:	57.1	55.3	52.7	47.5	56.1	56.6

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Third Floor With Wall
Road Name: Wildomar Trail
Lot No: MF2

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,700 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	2,070 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	379.0 feet
Centerline Dist. to Observer:	379.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	25.0 feet
Pad Elevation:	1,340.4 feet
Road Elevation:	1,335.0 feet
Barrier Elevation:	1,340.4 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,337.000		
Medium Trucks:	1,339.000		
Heavy Trucks:	1,343.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	379.640
Medium Trucks:	379.495
Heavy Trucks:	379.237

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	1.21	-13.31	-1.20	*-23.48*	0.000	0.000
Medium Trucks:	77.62	-16.03	-13.31	-1.20	*-23.61*	0.000	0.000
Heavy Trucks:	82.14	-19.99	-13.30	-1.20	*-23.87*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.0	54.1	52.4	46.3	54.9	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.1	46.4
Heavy Trucks:	47.7	46.2	37.2	38.4	46.8	46.9
Vehicle Noise:	57.1	55.3	52.7	47.5	56.0	56.5

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.0	54.1	52.4	46.3	54.9	55.6
Medium Trucks:	47.1	45.6	39.2	37.7	46.1	46.4
Heavy Trucks:	47.7	46.2	37.2	38.4	46.8	46.9
Vehicle Noise:	57.1	55.3	52.7	47.5	56.0	56.5

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Third Floor With Wall
Road Name: Clinton Keith
Lot No: MF3

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	414.0 feet
Centerline Dist. to Observer:	414.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	25.0 feet
Pad Elevation:	1,339.3 feet
Road Elevation:	1,330.0 feet
Barrier Elevation:	1,339.3 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,332.000		
Medium Trucks:	1,334.000		
Heavy Trucks:	1,338.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	413.420
Medium Trucks:	413.269
Heavy Trucks:	412.995

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	4.39	-13.86	-1.20	*-23.27*	0.000	0.000
Medium Trucks:	77.62	-12.84	-13.86	-1.20	*-23.38*	0.000	0.000
Heavy Trucks:	82.14	-16.80	-13.86	-1.20	*-23.62*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.7	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	49.7	48.2	41.8	40.3	48.8	49.0
Heavy Trucks:	50.3	48.9	39.8	41.1	49.4	49.6
Vehicle Noise:	59.7	57.9	55.3	50.1	58.7	59.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.7	56.8	55.0	49.0	57.6	58.2
Medium Trucks:	49.7	48.2	41.8	40.3	48.8	49.0
Heavy Trucks:	50.3	48.9	39.8	41.1	49.4	49.6
Vehicle Noise:	59.7	57.9	55.3	50.1	58.7	59.2

Friday, January 7, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Third Floor With Wall
Road Name: Clinton Keith
Lot No: MF4

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	312.0 feet
Centerline Dist. to Observer:	312.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	25.0 feet
Pad Elevation:	1,334.0 feet
Road Elevation:	1,330.0 feet
Barrier Elevation:	1,334.0 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,332.000		
Medium Trucks:	1,334.000		
Heavy Trucks:	1,338.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	310.728
Medium Trucks:	310.561
Heavy Trucks:	310.264

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	4.39	-12.00	-1.20	*-23.33*	0.000	0.000
Medium Trucks:	77.62	-12.84	-12.00	-1.20	*-23.48*	0.000	0.000
Heavy Trucks:	82.14	-16.80	-11.99	-1.20	*-23.80*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.5	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	51.6	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	52.1	50.7	41.7	42.9	51.3	51.4
Vehicle Noise:	61.6	59.8	57.2	52.0	60.5	61.0

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	60.5	58.6	56.9	50.8	59.4	60.0
Medium Trucks:	51.6	50.1	43.7	42.2	50.6	50.9
Heavy Trucks:	52.1	50.7	41.7	42.9	51.3	51.4
Vehicle Noise:	61.6	59.8	57.2	52.0	60.5	61.0

Friday, January 7, 2022

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (CALVENO) - 6/2/2013

Scenario: Third Floor With Wall
Road Name: Clinton Keith
Lot No: MF5

Project Name: Wildomar Crossing
Job Number: 14362
Analyst: B. Lawson

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	43,100 vehicles
Peak Hour Percentage:	10%
Peak Hour Volume:	4,310 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	78 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	167.0 feet
Centerline Dist. to Observer:	167.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	25.0 feet
Pad Elevation:	1,333.9 feet
Road Elevation:	1,329.0 feet
Barrier Elevation:	133.9 feet
Road Grade:	0.0%

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	77.5%	12.9%	9.6%	97.42%
Medium Trucks:	84.8%	4.9%	10.3%	1.84%
Heavy Trucks:	86.5%	2.7%	10.8%	0.74%

Noise Source Elevations (in feet)

Autos:	1,331.000		
Medium Trucks:	1,333.000		
Heavy Trucks:	1,337.006	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	164.765
Medium Trucks:	164.438
Heavy Trucks:	163.854

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	69.34	4.39	-7.87	-1.20	*-2,215.50*	0.000	0.000
Medium Trucks:	77.62	-12.84	-7.86	-1.20	*-2,217.75*	0.000	0.000
Heavy Trucks:	82.14	-16.80	-7.84	-1.20	*-2,222.19*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.8	61.0	54.9	63.6	64.2
Medium Trucks:	55.7	54.2	47.8	46.3	54.8	55.0
Heavy Trucks:	56.3	54.9	45.8	47.1	55.5	55.6
Vehicle Noise:	65.7	63.9	61.3	56.1	64.7	65.2

Mitigated Noise Levels (with Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	62.8	61.0	54.9	63.6	64.2
Medium Trucks:	55.7	54.2	47.8	46.3	54.8	55.0
Heavy Trucks:	56.3	54.9	45.8	47.1	55.5	55.6
Vehicle Noise:	65.7	63.9	61.3	56.1	64.7	65.2

Friday, January 7, 2022

APPENDIX 10.1:

CADNAA STATIONARY SOURCE NOISE MODEL INPUTS

This page intentionally left blank

14362 - Wildomar Crossroads

CadnaA Noise Prediction Model: 14362-02f.cna
Date: 07.01.22
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	304.80
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	43.4	40.4	47.2	65.0	45.0	0.0				5.00	r	6259324.06	2163330.64	1352.91
RECEIVERS		R2	44.1	40.9	47.7	65.0	45.0	0.0				5.00	r	6259872.88	2163435.42	1371.07
RECEIVERS		R3	42.9	39.2	46.1	65.0	45.0	0.0				5.00	r	6260028.66	2162438.92	1334.00
RECEIVERS		R4	47.7	44.5	51.4	65.0	45.0	0.0				5.00	r	6259270.39	2162636.64	1340.81
RECONSITE		MF1	59.8	56.0	62.9	65.0	45.0	0.0				5.00	r	6259586.39	2163144.23	1345.20
RECONSITE		MF2	65.9	50.1	63.6	65.0	45.0	0.0				5.00	r	6259583.24	2162989.13	1344.80
RECONSITE		MF3	62.0	54.9	62.9	65.0	45.0	0.0				5.00	r	6259542.90	2162872.81	1343.60
RECONSITE		MF4	61.0	53.9	61.9	65.0	45.0	0.0				5.00	r	6259539.75	2162764.87	1338.73
RECONSITE		MF5	53.1	49.3	56.3	65.0	45.0	0.0				5.00	r	6259536.09	2162608.21	1338.25

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			K0	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night				X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259598.00	2162646.25	1359.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259499.32	2162636.22	1378.25
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259462.39	2162636.22	1378.25
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259423.86	2162637.81	1378.25
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259390.09	2162638.86	1378.25
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259508.30	2162735.43	1378.73
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259469.77	2162735.43	1378.73

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			K0	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night				X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259434.95	2162735.96	1378.73
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259399.06	2162736.49	1378.73
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259367.40	2162738.07	1378.73
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259518.32	2162803.50	1364.50
POINTSOURCE		AC12	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259517.79	2162837.28	1364.50
POINTSOURCE		AC13	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259523.60	2162901.13	1383.60
POINTSOURCE		AC14	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259489.30	2162902.18	1383.60
POINTSOURCE		AC15	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259450.25	2162903.77	1383.60
POINTSOURCE		AC16	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259414.36	2162904.29	1383.60
POINTSOURCE		AC17	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259380.06	2162905.35	1383.60
POINTSOURCE		AC18	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259410.67	2163020.39	1384.80
POINTSOURCE		AC19	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259451.83	2163019.86	1384.80
POINTSOURCE		AC20	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259490.35	2163020.39	1384.80
POINTSOURCE		AC21	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259530.46	2163019.86	1384.80
POINTSOURCE		AC22	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259562.12	2163019.86	1384.80
POINTSOURCE		AC23	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259561.59	2163114.85	1385.20
POINTSOURCE		AC24	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259524.13	2163115.37	1385.20
POINTSOURCE		AC25	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259480.33	2163116.43	1385.20
POINTSOURCE		AC26	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259440.22	2163117.48	1385.20
POINTSOURCE		AC27	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259403.28	2163118.54	1385.20
POINTSOURCE		AC28	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259596.04	2162611.18	1359.00
POINTSOURCE		AC29	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259784.29	2162646.42	1361.00
POINTSOURCE		AC30	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259848.97	2162670.51	1361.00
POINTSOURCE		AC31	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259777.15	2163000.60	1372.50
POINTSOURCE		AC32	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259847.18	2162997.92	1372.50
POINTSOURCE		AC33	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259613.00	2162964.02	1372.50
POINTSOURCE		AC34	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259751.72	2162960.90	1372.50
POINTSOURCE		AC35	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259754.85	2163078.66	1372.50
POINTSOURCE		AC36	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	0.0	5.00	g	6259621.02	2163079.55	1372.50
POINTSOURCE		CART01	87.5	87.5	87.5	Lw	87.5		300.00	0.00	180.00	0.0	3.00	r	6259688.38	2162844.47	1340.85
POINTSOURCE		CART02	87.5	87.5	87.5	Lw	87.5		300.00	0.00	180.00	0.0	3.00	r	6259646.00	2162845.81	1340.85
POINTSOURCE		CART03	87.5	87.5	87.5	Lw	87.5		300.00	0.00	180.00	0.0	3.00	r	6259609.43	2162846.70	1340.93
POINTSOURCE		CART04	87.5	87.5	87.5	Lw	87.5		300.00	0.00	180.00	0.0	3.00	r	6259771.80	2162843.14	1340.52
POINTSOURCE		DOCK01	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259744.14	2163110.33	1345.93
POINTSOURCE		DOCK02	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259720.50	2163130.41	1346.36
POINTSOURCE		DOCK03	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259685.26	2163131.30	1346.19
POINTSOURCE		DOCK04	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259647.34	2163135.31	1345.67
POINTSOURCE		DOCK05	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259703.10	2163113.45	1345.97
POINTSOURCE		DOCK06	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259670.09	2163113.90	1345.87
POINTSOURCE		DT01	83.2	83.2	83.2	Lw	83.2					0.0	3.00	r	6259564.82	2162702.18	1336.41
POINTSOURCE		DT02	83.2	83.2	83.2	Lw	83.2					0.0	3.00	r	6259578.20	2162700.84	1336.47
POINTSOURCE		DT03	83.2	83.2	83.2	Lw	83.2					0.0	3.00	r	6259729.42	2162601.37	1336.21
POINTSOURCE		DT04	83.2	83.2	83.2	Lw	83.2					0.0	3.00	r	6259340.41	2162638.19	1334.38
POINTSOURCE		PARK01	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259788.30	2162715.11	1339.13
POINTSOURCE		PARK02	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259726.74	2162675.86	1338.76
POINTSOURCE		PARK03	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259663.85	2162639.28	1337.63
POINTSOURCE		PARK04	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259664.29	2162705.75	1338.60
POINTSOURCE		PARK05	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259592.03	2162799.42	1342.41
POINTSOURCE		PARK06	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259592.48	2162867.22	1343.47
POINTSOURCE		PARK07	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259664.74	2162774.44	1340.89
POINTSOURCE		PARK08	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259666.97	2162864.99	1343.23
POINTSOURCE		PARK09	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259749.05	2162775.78	1341.02
POINTSOURCE		PARK10	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259748.60	2162862.32	1343.04
POINTSOURCE		PARK11	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259812.39	2162775.78	1341.00
POINTSOURCE		PARK12	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259811.50	2162861.42	1342.04
POINTSOURCE		PARK13	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259874.84	2162775.33	1341.86
POINTSOURCE		PARK14	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259874.84	2162860.09	1341.16
POINTSOURCE		PARK15	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259878.85	2162962.24	1342.41
POINTSOURCE		PARK16	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259882.42	2163027.36	1343.00
POINTSOURCE		PARK17	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259883.31	2163114.79	1344.86
POINTSOURCE		PARK18	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259490.33	2162952.42	1343.97
POINTSOURCE		PARK19	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259394.87	2162955.10	1343.96
POINTSOURCE		PARK21	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259331.52	2162734.29	1338.97
POINTSOURCE		PARK22	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259333.76	2162798.98	1341.10
POINTSOURCE		PARK23	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259334.65	2162872.13	1342.97
POINTSOURCE		PARK24	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259337.32	2162941.72	1343.33
POINTSOURCE		PARK25	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259338.66	2163008.18	1344.20
POINTSOURCE		PARK26	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259340.45	2163072.86	1346.38
POINTSOURCE		PARK27	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259340.89	2163131.30	1344.05
POINTSOURCE		PARK28	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259905.62	2163178.13	1350.34
POINTSOURCE		PARK29	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259342.68	2163191.07	1345.48
POINTSOURCE		PARK30	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259407.36	2163189.73	1344.26
POINTSOURCE		PARK31	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259475.16	2163188.39	1344.14
POINTSOURCE		PARK32	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259546.98	2163186.16	1345.88
POINTSOURCE		PARK33	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259620.13	2163184.38	1345.93
POINTSOURCE		PARK34	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259687.49	2163183.49	1346.84
POINTSOURCE		PARK35	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259767.78	2163181.70	1347.85

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			K0	Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night				X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(dB)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		PARK36	87.8	87.8	87.8	Lw	87.8		900.00	0.00	270.00	0.0	5.00	r	6259840.49	2163179.03	1348.71
POINTSOURCE		POOL01	94.6	94.6	94.6	Lw	94.6		900.00	0.00	0.00	0.0	4.00	r	6259444.83	2162800.31	1341.89
POINTSOURCE		POOL02	94.6	94.6	94.6	Lw	94.6		900.00	0.00	0.00	0.0	4.00	r	6259445.27	2162820.83	1341.97
POINTSOURCE		POOL03	94.6	94.6	94.6	Lw	94.6		900.00	0.00	0.00	0.0	4.00	r	6259445.27	2162842.24	1341.97
POINTSOURCE		POOL04	94.6	94.6	94.6	Lw	94.6		900.00	0.00	0.00	0.0	4.00	r	6259418.95	2162821.28	1341.67
POINTSOURCE		POOL05	94.6	94.6	94.6	Lw	94.6		900.00	0.00	0.00	0.0	4.00	r	6259392.19	2162800.31	1340.56
POINTSOURCE		POOL06	94.6	94.6	94.6	Lw	94.6		900.00	0.00	0.00	0.0	4.00	r	6259391.74	2162821.28	1341.35
POINTSOURCE		POOL07	94.6	94.6	94.6	Lw	94.6		900.00	0.00	0.00	0.0	4.00	r	6259393.08	2162842.24	1341.55
POINTSOURCE		SEAT01	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259597.38	2162719.13	1337.74
POINTSOURCE		SEAT02	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259613.89	2162714.67	1337.46
POINTSOURCE		SEAT03	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259613.00	2162677.64	1337.00
POINTSOURCE		SEAT04	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259597.38	2162690.13	1337.12
POINTSOURCE		SEAT05	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259839.15	2162698.61	1338.72
POINTSOURCE		SEAT06	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259796.78	2162687.46	1338.73
POINTSOURCE		SEAT07	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259777.60	2162684.78	1338.66
POINTSOURCE		SEAT08	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259843.61	2162942.61	1343.26
POINTSOURCE		SEAT09	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259817.74	2162944.39	1343.36
POINTSOURCE		SEAT10	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259574.63	2162926.11	1343.03
POINTSOURCE		SEAT11	91.5	91.5	91.5	Lw	91.5		900.00	0.00	0.00	0.0	4.00	r	6259574.63	2162967.59	1343.56
POINTSOURCE		TRASH01	87.8	87.8	87.8	Lw	87.8		150.00	0.00	90.00	0.0	5.00	r	6259667.86	2163100.52	1345.66
POINTSOURCE		TRASH02	87.8	87.8	87.8	Lw	87.8		150.00	0.00	90.00	0.0	5.00	r	6259776.26	2163038.51	1345.14
POINTSOURCE		TRASH03	87.8	87.8	87.8	Lw	87.8		150.00	0.00	90.00	0.0	5.00	r	6259387.73	2163213.37	1349.04
POINTSOURCE		TRASH04	87.8	87.8	87.8	Lw	87.8		150.00	0.00	90.00	0.0	5.00	r	6259375.69	2163213.37	1349.44
POINTSOURCE		TRASH05	87.8	87.8	87.8	Lw	87.8		150.00	0.00	90.00	0.0	5.00	r	6259306.54	2162715.56	1338.73
POINTSOURCE		TRASH06	87.8	87.8	87.8	Lw	87.8		150.00	0.00	90.00	0.0	5.00	r	6259306.99	2162702.18	1339.39
POINTSOURCE		TRASH07	87.8	87.8	87.8	Lw	87.8		150.00	0.00	90.00	0.0	5.00	r	6259746.37	2162630.81	1339.22
POINTSOURCE		TRASH08	87.8	87.8	87.8	Lw	87.8		150.00	0.00	90.00	0.0	5.00	r	6259614.78	2162742.32	1340.17

Barrier(s)

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIEREXISTING		0						6.00	r		6259098.61	2162601.82	1338.84	1332.84
											6259123.74	2162601.50	1338.99	1332.99
											6259123.78	2162601.50	1338.99	1332.99
											6259123.88	2162601.50	1338.99	1332.99
											6259124.10	2162601.50	1339.00	1333.00
											6259139.89	2162601.30	1339.54	1333.54
											6259163.59	2162601.01	1339.16	1333.16
											6259167.65	2162600.96	1339.08	1333.08
											6259173.51	2162600.88	1339.30	1333.30
											6259176.94	2162600.84	1339.12	1333.12
											6259187.70	2162600.70	1339.10	1333.10
											6259188.54	2162600.69	1339.09	1333.09
											6259191.05	2162600.66	1339.55	1333.55
											6259192.47	2162600.64	1339.78	1333.78
											6259196.84	2162600.59	1340.00	1334.00
											6259198.91	2162600.56	1340.12	1334.12
											6259200.00	2162600.55	1340.15	1334.15
											6259207.51	2162600.46	1340.30	1334.30
											6259212.79	2162600.39	1340.16	1334.16
											6259220.75	2162600.29	1340.00	1334.00
											6259220.80	2162600.29	1340.00	1334.00
											6259220.85	2162600.29	1340.00	1334.00
											6259266.24	2162599.72	1339.93	1333.93
											6259267.93	2162599.70	1339.94	1333.94
											6259272.21	2162599.65	1339.80	1333.80
											6259273.59	2162599.63	1339.87	1333.87
											6259278.63	2162599.57	1340.00	1334.00
											6259288.18	2162599.45	1340.41	1334.41
											6259288.25	2162603.66	1341.00	1335.00
											6259288.25	2162603.67	1341.00	1335.00
											6259288.50	2162618.19	1341.99	1335.99
											6259288.76	2162633.19	1342.99	1336.99
											6259288.76	2162633.25	1343.00	1337.00
											6259289.02	2162648.11	1342.92	1336.92
											6259289.26	2162662.03	1342.20	1336.20
											6259289.35	2162667.25	1342.36	1336.36
											6259289.52	2162677.28	1342.54	1336.54
											6259289.95	2162702.05	1342.99	1336.99
											6259289.95	2162702.19	1342.98	1336.98
											6259290.15	2162713.84	1342.76	1336.76
											6259290.32	2162724.03	1341.99	1335.99
											6259290.42	2162729.32	1341.99	1335.99
											6259290.62	2162741.22	1342.98	1336.98
											6259290.62	2162741.43	1342.99	1336.99

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
											6259290.84	2162753.83	1343.99	1337.99
											6259291.00	2162763.02	1343.84	1337.84
											6259291.25	2162777.86	1343.99	1337.99
											6259291.25	2162777.99	1343.98	1337.98
											6259291.26	2162778.21	1343.99	1337.99
											6259291.75	2162806.57	1343.24	1337.24
											6259291.90	2162815.54	1343.00	1337.00
											6259292.28	2162837.55	1343.99	1337.99
											6259292.29	2162838.07	1344.00	1338.00
											6259292.55	2162853.54	1344.00	1338.00
											6259293.34	2162898.95	1344.00	1338.00
											6259293.34	2162899.34	1344.00	1338.00
											6259293.34	2162899.42	1344.00	1338.00
											6259293.35	2162899.76	1344.00	1338.00
											6259293.49	2162908.02	1344.98	1338.98
											6259293.54	2162910.78	1345.97	1339.97
											6259293.58	2162913.09	1346.95	1340.95
											6259293.62	2162915.60	1347.94	1341.94
											6259293.67	2162918.21	1348.92	1342.92
											6259293.77	2162924.31	1350.27	1344.27
											6259293.84	2162928.02	1350.89	1344.89
											6259293.92	2162932.70	1351.87	1345.87
											6259293.93	2162933.24	1351.88	1345.88
											6259294.22	2162950.19	1350.50	1344.50
											6259294.35	2162958.05	1349.89	1343.89
											6259294.45	2162963.35	1349.47	1343.47
											6259294.63	2162974.16	1351.86	1345.86
											6259294.63	2162974.31	1351.94	1345.94
											6259294.64	2162974.42	1351.96	1345.96
											6259294.65	2162975.47	1351.87	1345.87
											6259295.42	2163020.05	1348.58	1342.58
											6259295.46	2163022.38	1348.96	1342.96
											6259295.50	2163024.36	1348.96	1342.96
											6259295.61	2163030.98	1351.85	1345.85
											6259295.70	2163036.30	1351.85	1345.85
											6259296.17	2163063.45	1351.84	1345.84
											6259296.18	2163064.29	1351.98	1345.98
											6259296.20	2163064.97	1351.87	1345.87
											6259296.53	2163084.38	1350.76	1344.76
											6259296.75	2163097.87	1349.99	1343.99
											6259296.88	2163105.70	1351.61	1345.61
											6259296.99	2163112.37	1351.05	1345.05
											6259297.14	2163121.35	1350.89	1344.89
											6259297.58	2163148.23	1350.81	1344.81
											6259297.66	2163153.56	1352.82	1346.82
											6259297.74	2163158.13	1352.82	1346.82
											6259297.80	2163162.06	1352.41	1346.41
											6259297.87	2163167.38	1351.86	1345.86
											6259297.96	2163174.67	1351.87	1345.87
											6259297.97	2163175.22	1351.98	1345.98
											6259298.22	2163194.64	1351.99	1345.99
											6259298.24	2163196.92	1351.99	1345.99
											6259298.25	2163197.05	1352.04	1346.04
											6259298.25	2163197.07	1352.04	1346.04
											6259298.35	2163205.24	1352.36	1346.36
											6259298.35	2163205.43	1352.35	1346.35
											6259298.36	2163205.68	1352.34	1346.34
											6259298.36	2163205.98	1352.31	1346.31
											6259298.54	2163220.47	1352.22	1346.22
											6259298.55	2163220.76	1352.24	1346.24
											6259298.56	2163221.62	1352.32	1346.32
											6259298.68	2163230.99	1352.96	1346.96
											6259303.74	2163230.92	1354.00	1348.00
											6259303.75	2163230.92	1354.00	1348.00
											6259309.55	2163230.85	1355.00	1349.00
											6259309.55	2163230.85	1355.00	1349.00
											6259309.55	2163230.85	1355.00	1349.00
											6259309.56	2163230.85	1355.00	1349.00
											6259315.13	2163230.78	1356.00	1350.00
											6259315.13	2163230.78	1356.00	1350.00
											6259318.12	2163230.74	1357.00	1351.00
											6259318.13	2163230.74	1357.00	1351.00
											6259321.35	2163230.70	1358.00	1352.00
											6259324.62	2163230.65	1359.00	1353.00
											6259324.63	2163230.65	1359.00	1353.00
											6259328.33	2163230.61	1359.99	1353.99
											6259328.36	2163230.61	1360.00	1354.00

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
											6259328.37	2163230.61	1360.00	1354.00
											6259332.75	2163230.55	1361.00	1355.00
											6259359.48	2163230.20	1361.99	1355.99
											6259359.64	2163230.20	1361.99	1355.99
											6259361.59	2163230.17	1361.99	1355.99
											6259361.69	2163230.17	1361.99	1355.99
											6259369.16	2163230.08	1358.64	1352.64
											6259387.65	2163229.84	1361.99	1355.99
											6259387.85	2163229.83	1361.99	1355.99
											6259387.97	2163229.83	1362.00	1356.00
											6259394.96	2163229.74	1362.00	1356.00
											6259395.13	2163229.74	1361.99	1355.99
											6259395.58	2163229.73	1361.97	1355.96
											6259404.12	2163229.62	1360.13	1354.13
											6259428.87	2163229.30	1361.00	1355.00
											6259429.58	2163229.29	1361.00	1355.00
											6259429.85	2163229.29	1360.99	1354.99
											6259442.03	2163229.13	1360.00	1354.00
											6259442.37	2163229.13	1359.98	1353.98
											6259455.05	2163228.96	1359.00	1353.00
											6259455.20	2163228.96	1358.99	1352.99
											6259464.07	2163228.85	1358.27	1352.27
											6259467.39	2163228.80	1358.00	1352.00
											6259467.48	2163228.80	1357.99	1351.99
											6259467.84	2163228.80	1357.97	1351.97
											6259475.74	2163228.70	1353.82	1347.82
											6259480.68	2163228.63	1357.00	1351.00
											6259480.85	2163228.63	1356.98	1350.98
											6259489.57	2163228.52	1356.00	1350.00
											6259489.66	2163228.51	1355.99	1349.99
											6259490.05	2163228.51	1355.96	1349.96
											6259500.29	2163228.38	1355.00	1349.00
											6259500.43	2163228.38	1354.98	1348.98
											6259518.62	2163228.14	1354.00	1348.00
											6259518.88	2163228.14	1354.00	1348.00
											6259519.20	2163228.13	1353.97	1347.97
											6259530.13	2163227.99	1353.00	1347.00
											6259530.32	2163227.99	1352.98	1346.98
											6259540.28	2163227.86	1352.00	1346.00
											6259540.54	2163227.86	1351.98	1345.98
											6259541.26	2163227.85	1351.96	1345.96
											6259568.34	2163227.50	1351.00	1345.00
											6259568.52	2163227.49	1350.98	1344.98
											6259568.63	2163227.49	1350.99	1344.99
											6259569.41	2163227.48	1350.97	1344.97
											6259595.59	2163227.14	1349.06	1343.06
											6259607.51	2163226.99	1348.89	1342.89
											6259629.46	2163226.70	1349.85	1343.85
											6259632.86	2163226.66	1350.00	1344.00
											6259633.27	2163226.65	1349.98	1343.98
											6259633.39	2163226.65	1349.98	1343.98
											6259637.32	2163226.59	1349.98	1343.98
											6259637.50	2163226.59	1349.98	1343.98
											6259638.99	2163226.57	1349.98	1343.98
											6259644.41	2163226.49	1349.98	1343.98
											6259644.67	2163226.49	1350.00	1344.00
											6259652.07	2163226.38	1350.00	1344.00
											6259652.20	2163226.38	1350.00	1344.00
											6259652.30	2163226.38	1349.98	1343.98
											6259652.39	2163226.38	1349.99	1343.99
											6259663.42	2163226.22	1348.47	1342.47
											6259667.16	2163226.17	1348.44	1342.44
											6259677.12	2163226.03	1349.00	1343.00
											6259677.27	2163226.03	1349.00	1343.00
											6259677.38	2163226.03	1349.00	1343.00
											6259695.43	2163225.77	1348.01	1342.01
											6259695.45	2163225.77	1348.01	1342.01
											6259695.70	2163225.77	1348.00	1342.00
											6259729.49	2163225.29	1347.02	1341.02
											6259730.13	2163225.28	1347.00	1341.00
											6259730.23	2163225.28	1347.00	1341.00
											6259733.27	2163225.24	1347.40	1341.40
											6259756.75	2163224.90	1347.33	1341.33
											6259761.50	2163224.84	1347.00	1341.00
											6259761.71	2163224.83	1347.01	1341.01
											6259776.87	2163224.62	1348.00	1342.00
											6259776.92	2163224.62	1348.00	1342.00

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
											6259777.08	2163224.62	1348.00	1342.00
											6259794.84	2163224.36	1348.69	1342.69
											6259802.11	2163224.27	1348.98	1342.98
											6259808.67	2163224.18	1348.88	1342.88
											6259816.81	2163224.07	1349.52	1343.52
											6259835.64	2163223.81	1349.21	1343.21
											6259843.47	2163223.70	1349.04	1343.04
											6259858.33	2163223.50	1349.00	1343.00
											6259858.75	2163223.49	1349.01	1343.01
											6259858.90	2163223.49	1349.01	1343.01
											6259867.15	2163223.38	1349.01	1343.01
											6259870.21	2163223.34	1349.01	1343.01
											6259870.33	2163223.34	1349.01	1343.01
											6259890.49	2163223.06	1350.00	1344.00
											6259890.58	2163223.06	1350.01	1344.01
											6259898.03	2163222.96	1351.00	1345.00
											6259898.09	2163222.96	1351.01	1345.01
											6259903.13	2163222.89	1352.00	1346.00
											6259903.17	2163222.89	1352.01	1346.01
											6259910.83	2163222.78	1353.30	1347.30
BARRIEREXISTING		0						6.00	r		6259298.68	2163230.99	1352.96	1346.96
											6259342.93	2163387.79	1353.59	1347.59
											6259259.99	2163436.77	1353.93	1347.93
BARRIEREXISTING		0						6.00	r		6259928.20	2163677.36	1272.95	1266.95
											6259926.21	2163633.69	1307.30	1301.30
											6259925.68	2163621.91	1320.19	1314.19
											6259921.13	2163577.83	1368.56	1362.56
											6259920.83	2163574.88	1371.49	1365.49
											6259920.04	2163567.18	1371.30	1365.30
											6259919.69	2163563.88	1371.22	1365.22
											6259919.11	2163558.24	1371.30	1365.30
											6259917.19	2163539.55	1371.41	1365.41
											6259916.53	2163533.20	1371.89	1365.89
											6259916.48	2163532.75	1371.93	1365.93
											6259915.82	2163526.31	1372.00	1366.00
											6259914.92	2163517.57	1372.09	1366.09
											6259914.85	2163516.92	1372.05	1366.05
											6259914.70	2163515.40	1372.00	1366.00
											6259914.01	2163508.78	1371.70	1365.70
											6259913.65	2163505.30	1371.63	1365.63
											6259913.24	2163501.26	1371.38	1365.38
											6259912.75	2163496.51	1372.00	1366.00
											6259912.70	2163496.00	1372.07	1366.07
											6259912.63	2163495.40	1372.12	1366.12
											6259911.54	2163484.78	1372.49	1366.49
											6259911.24	2163481.85	1372.49	1366.49
											6259911.04	2163479.90	1372.28	1366.28
											6259910.59	2163475.61	1372.00	1366.00
											6259910.19	2163471.70	1371.54	1365.54
											6259909.68	2163466.71	1371.00	1365.00
											6259909.54	2163465.42	1370.79	1364.79
											6259908.98	2163459.95	1370.26	1364.26
											6259904.77	2163456.55	1371.00	1365.00
											6259900.77	2163453.32	1371.57	1365.57
											6259898.96	2163451.86	1372.00	1366.00
											6259897.36	2163450.56	1372.00	1366.00
											6259896.27	2163449.68	1371.79	1365.79
											6259891.23	2163445.61	1372.00	1366.00
											6259890.54	2163445.05	1372.02	1366.02
											6259890.41	2163444.95	1372.02	1366.02
											6259888.85	2163443.69	1372.00	1366.00
											6259875.11	2163432.58	1371.34	1365.34
											6259862.40	2163433.69	1372.00	1366.00
											6259856.42	2163434.21	1372.33	1366.33
											6259854.85	2163434.35	1372.34	1366.34
											6259853.76	2163434.44	1372.26	1366.26
											6259850.34	2163434.74	1372.00	1366.00
											6259846.99	2163435.03	1371.60	1365.60
											6259842.32	2163435.44	1371.00	1365.00
											6259838.07	2163435.81	1370.40	1364.40
											6259835.87	2163436.01	1370.66	1364.66
											6259833.26	2163436.23	1371.00	1365.00
											6259825.06	2163436.95	1371.59	1365.59
											6259821.42	2163437.27	1371.94	1365.94
											6259820.93	2163437.31	1371.95	1365.95
											6259819.32	2163437.45	1372.00	1366.00
											6259817.59	2163437.60	1372.00	1366.00

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
			left	right		horz.	vert.	Begin	End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
										6259816.66	2163437.68	1372.00	1366.00
										6259815.78	2163437.76	1372.00	1366.00
										6259810.05	2163438.26	1371.69	1365.69
										6259801.95	2163438.97	1371.19	1365.19
										6259800.37	2163439.11	1371.06	1365.06
										6259799.89	2163439.15	1371.02	1365.02
										6259798.98	2163439.23	1371.05	1365.05
										6259789.35	2163440.07	1371.14	1365.14
										6259788.84	2163440.11	1371.25	1365.25
										6259783.25	2163440.60	1371.00	1365.00
										6259781.89	2163440.72	1370.92	1364.92
										6259780.78	2163440.82	1371.00	1365.00
										6259769.73	2163441.78	1371.48	1365.48
										6259764.33	2163442.69	1371.10	1365.10
										6259763.99	2163442.74	1371.06	1365.06
										6259763.39	2163442.84	1371.02	1365.02
										6259757.10	2163443.90	1371.00	1365.00
										6259740.00	2163446.77	1370.82	1364.82
										6259737.92	2163447.12	1371.00	1365.00
										6259732.41	2163448.04	1371.27	1365.27
										6259731.45	2163448.20	1371.37	1365.37
										6259725.84	2163449.14	1371.38	1365.38
										6259722.82	2163449.65	1371.32	1365.32
										6259721.05	2163449.95	1371.00	1365.00
										6259720.82	2163449.98	1370.95	1364.95
										6259715.91	2163450.81	1370.58	1364.58
										6259710.22	2163452.78	1370.40	1364.40
										6259705.08	2163454.56	1370.84	1364.84
										6259703.93	2163454.95	1370.91	1364.91
										6259699.40	2163456.52	1370.60	1364.60
										6259691.78	2163459.16	1370.59	1364.59
										6259686.33	2163461.05	1371.00	1365.00
										6259686.00	2163461.16	1371.00	1365.00
										6259683.45	2163462.04	1370.49	1364.49
										6259679.92	2163463.26	1370.22	1364.22
										6259678.17	2163463.87	1370.16	1364.16
										6259672.58	2163465.81	1370.00	1364.00
										6259664.27	2163468.68	1369.82	1363.82
										6259658.86	2163470.56	1369.39	1363.39
										6259652.63	2163472.71	1369.00	1363.00
										6259652.50	2163472.76	1368.99	1362.99
										6259651.85	2163472.98	1368.96	1362.96
										6259634.66	2163478.93	1368.50	1362.50
										6259629.22	2163481.47	1368.90	1362.90
										6259612.50	2163489.26	1368.00	1362.00
										6259602.88	2163493.74	1367.53	1361.53
										6259601.10	2163494.57	1368.00	1362.00
										6259599.13	2163495.48	1368.43	1362.43
										6259596.49	2163496.71	1369.00	1363.00
										6259592.82	2163498.43	1369.36	1363.36
										6259590.19	2163499.65	1369.48	1363.48
										6259587.54	2163500.89	1370.00	1364.00
										6259587.02	2163501.13	1370.10	1364.10
										6259585.31	2163501.92	1371.00	1365.00
										6259584.37	2163502.36	1371.44	1365.44
										6259573.55	2163507.41	1370.75	1364.75
										6259570.21	2163509.20	1370.00	1364.00
										6259568.30	2163510.22	1369.34	1363.34
										6259566.38	2163511.25	1369.00	1363.00
										6259564.13	2163512.46	1368.66	1362.66
										6259561.02	2163514.13	1368.55	1362.55
										6259554.26	2163517.76	1368.37	1362.37
										6259547.74	2163521.25	1368.69	1362.69
										6259543.84	2163523.34	1368.86	1362.86
										6259538.45	2163526.24	1368.57	1362.57
										6259534.44	2163528.39	1368.50	1362.50
										6259529.67	2163530.95	1368.21	1362.21
										6259527.87	2163531.92	1368.07	1362.07
										6259519.52	2163536.40	1368.15	1362.15
										6259516.60	2163537.96	1368.01	1362.01
										6259506.87	2163543.54	1367.21	1361.21
										6259505.46	2163544.35	1367.03	1361.03
										6259500.99	2163546.91	1367.00	1361.00
										6259496.67	2163549.39	1366.88	1360.88
										6259493.79	2163551.04	1366.88	1360.88
										6259470.97	2163564.13	1366.88	1360.88
										6259468.88	2163565.32	1366.68	1360.68

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
											6259465.02	2163567.54	1366.20	1360.20
											6259464.14	2163568.04	1366.17	1360.17
											6259451.46	2163575.31	1366.22	1360.22
											6259447.39	2163577.65	1366.00	1360.00
											6259446.22	2163578.32	1366.00	1360.00
											6259440.43	2163581.64	1365.42	1359.42
											6259435.27	2163584.60	1365.50	1359.50
											6259426.07	2163589.87	1365.22	1359.22
											6259424.22	2163590.93	1365.00	1359.00
											6259413.82	2163596.89	1364.00	1358.00
											6259413.74	2163596.94	1364.01	1358.01
											6259409.98	2163599.10	1364.61	1358.61
											6259406.80	2163600.92	1364.82	1358.82
											6259403.19	2163602.99	1365.00	1359.00
											6259397.15	2163606.46	1365.32	1359.32
											6259396.28	2163606.95	1365.21	1359.21
											6259391.25	2163609.84	1364.73	1358.73
											6259387.28	2163612.20	1364.00	1358.00
											6259385.53	2163613.24	1363.73	1357.73
											6259380.64	2163616.15	1363.00	1357.00
											6259375.89	2163618.97	1362.36	1356.36
											6259373.49	2163620.41	1362.00	1356.00
											6259372.32	2163621.10	1361.68	1355.68
											6259365.69	2163625.04	1361.00	1355.00
											6259364.86	2163625.54	1360.91	1354.91
											6259352.59	2163632.84	1360.00	1354.00
											6259346.40	2163636.52	1359.58	1353.58
											6259341.38	2163639.51	1359.00	1353.00
											6259336.39	2163642.48	1358.51	1352.51
BARRIERTEMP		0						5.00	g		6259522.16	2162651.17	1378.25	1333.25
											6259522.16	2162619.26	1378.25	1333.25
											6259371.69	2162622.12	1378.25	1333.25
											6259372.64	2162654.50	1378.25	1333.25
											6259523.59	2162651.17	1378.25	1333.25
BARRIERTEMP		0						5.00	g		6259359.78	2162751.17	1378.73	1333.73
											6259528.83	2162748.31	1378.73	1333.73
											6259528.36	2162715.45	1378.73	1333.73
											6259355.49	2162720.21	1378.73	1333.73
											6259360.26	2162750.69	1378.73	1333.73
BARRIERTEMP		0						5.00	g		6259367.40	2162916.41	1383.60	1338.60
											6259533.59	2162913.55	1383.60	1338.60
											6259534.07	2162886.88	1383.60	1338.60
											6259366.92	2162889.74	1383.60	1338.60
											6259367.88	2162914.98	1383.60	1338.60
BARRIERTEMP		0						5.00	g		6259390.73	2163039.74	1384.80	1339.80
											6259573.59	2163036.41	1384.80	1339.80
											6259573.59	2163002.60	1384.80	1339.80
											6259392.16	2163006.41	1384.80	1339.80
											6259389.78	2163034.98	1384.80	1339.80
BARRIERTEMP		0						5.00	g		6259393.59	2163133.08	1385.20	1340.20
											6259571.69	2163128.79	1385.20	1340.20
											6259572.17	2163098.79	1385.20	1340.20
											6259391.21	2163102.13	1385.20	1340.20
											6259391.69	2163130.22	1385.20	1340.20

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		MAJOR A	x	0		27.00	r	6259604.20	2163094.45	1367.50	1340.50
								6259628.30	2163093.93	1367.50	1340.50
								6259629.88	2163124.32	1367.50	1340.50
								6259653.46	2163121.70	1367.50	1340.50
								6259652.93	2163093.93	1367.50	1340.50
								6259765.06	2163090.26	1367.50	1340.50
								6259764.54	2163014.81	1367.50	1340.50
								6259859.38	2163012.19	1367.50	1340.50
								6259857.80	2162959.79	1367.50	1340.50
								6259762.97	2162961.36	1367.50	1340.50
								6259762.97	2162951.41	1367.50	1340.50
								6259601.06	2162955.08	1367.50	1340.50
BUILDING		PAD 1	x	0		21.00	r	6259576.43	2162667.42	1354.00	1333.00
								6259617.30	2162665.84	1354.00	1333.00
								6259616.78	2162600.35	1354.00	1333.00
								6259571.19	2162600.87	1354.00	1333.00
								6259571.19	2162628.12	1354.00	1333.00

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
								6259576.43	2162628.12	1354.00	1333.00
BUILDING		PAD 2	x	0		21.00	r	6259768.21	2162671.08	1356.00	1335.00
								6259830.56	2162683.14	1356.00	1335.00
								6259829.51	2162690.47	1356.00	1335.00
								6259860.42	2162697.81	1356.00	1335.00
								6259862.00	2162688.37	1356.00	1335.00
								6259855.18	2162686.80	1356.00	1335.00
								6259862.52	2162655.89	1356.00	1335.00
								6259837.37	2162652.22	1356.00	1335.00
								6259841.04	2162631.26	1356.00	1335.00
								6259778.16	2162620.78	1356.00	1335.00
BUILDING		POOL BLDG	x	0		21.00	r	6259491.55	2162854.47	1359.50	1338.50
								6259541.85	2162851.85	1359.50	1338.50
								6259540.28	2162785.31	1359.50	1338.50
								6259490.50	2162786.36	1359.50	1338.50
BUILDING		BLDG_1	x	0		40.00	r	6259378.89	2163148.95	1380.20	1340.20
								6259586.39	2163144.23	1380.20	1340.20
								6259586.39	2163082.93	1380.20	1340.20
								6259378.37	2163088.69	1380.20	1340.20
BUILDING		BLDG_2	x	0		40.00	r	6259378.37	2163055.68	1379.80	1339.80
								6259586.39	2163050.96	1379.80	1339.80
								6259583.24	2162989.13	1379.80	1339.80
								6259376.27	2162993.33	1379.80	1339.80
BUILDING		BLDG_3	x	0		40.00	r	6259353.74	2162939.88	1378.60	1338.60
								6259544.47	2162934.12	1378.60	1338.60
								6259542.90	2162872.81	1378.60	1338.60
								6259353.74	2162877.00	1378.60	1338.60
BUILDING		BLDG_4	x	0		40.00	r	6259351.12	2162770.11	1373.73	1333.73
								6259539.75	2162764.87	1373.73	1333.73
								6259540.28	2162703.05	1373.73	1333.73
								6259349.55	2162708.81	1373.73	1333.73
BUILDING		BLDG_5	x	0		40.00	r	6259364.75	2162672.13	1373.25	1333.25
								6259536.61	2162670.04	1373.25	1333.25
								6259536.09	2162608.21	1373.25	1333.25
								6259362.13	2162612.40	1373.25	1333.25
BUILDING		BUILDING00010	x	0		25.00	r	6259248.82	2163429.83	1372.63	1347.63
								6259290.84	2163405.93	1372.63	1347.04
								6259266.55	2163365.84	1372.63	1347.00
								6259217.21	2163394.37	1372.63	1346.44
BUILDING		BUILDING00011	x	0		25.00	r	6259206.80	2163386.27	1370.65	1345.65
								6259254.60	2163359.29	1370.65	1345.95
								6259231.86	2163318.04	1370.65	1346.00
								6259183.29	2163346.18	1370.65	1345.00
BUILDING		BUILDING00012	x	0		25.00	r	6259164.78	2163341.56	1369.13	1344.13
								6259206.42	2163315.34	1369.13	1344.44
								6259186.37	2163277.57	1369.13	1343.27
								6259129.70	2163309.95	1369.13	1343.02
BUILDING		BUILDING00013	x	0		25.00	r	6259119.68	2163301.08	1368.00	1343.00
								6259162.47	2163274.48	1368.00	1342.11
								6259138.18	2163235.16	1368.00	1342.29
								6259088.07	2163264.07	1368.00	1341.40
BUILDING		BUILDING00014	x	0		25.00	r	6259202.95	2163203.55	1370.00	1345.00
								6259228.77	2163164.62	1370.00	1345.00
								6259182.90	2163130.70	1370.00	1344.19
								6259161.70	2163173.48	1370.00	1344.05
BUILDING		BUILDING00015	x	0		25.00	r	6259217.21	2163135.32	1369.91	1344.91
								6259252.29	2163140.72	1369.91	1345.00
								6259263.08	2163098.70	1369.91	1345.00
								6259212.20	2163086.36	1369.91	1344.49
BUILDING		BUILDING00016	x	0		25.00	r	6259222.22	2163074.41	1369.88	1344.88
								6259265.40	2163056.30	1369.88	1345.00
								6259247.66	2163015.05	1369.88	1345.00
								6259193.70	2163037.02	1369.88	1344.51
BUILDING		BUILDING00017	x	0		25.00	r	6259155.53	2162990.76	1369.20	1344.20
								6259194.47	2163025.46	1369.20	1344.72
								6259238.41	2162972.26	1369.20	1345.00
								6259196.78	2162942.58	1369.20	1345.00
BUILDING		BUILDING00018	x	0		25.00	r	6259203.33	2162857.77	1362.68	1337.68
								6259240.72	2162828.09	1362.68	1337.00
								6259202.56	2162788.38	1362.68	1336.59
								6259166.71	2162819.61	1362.68	1336.45
BUILDING		BUILDING00019	x	0		25.00	r	6259196.78	2162774.50	1361.51	1336.51
								6259253.45	2162771.42	1361.51	1337.00
								6259249.59	2162723.23	1361.51	1337.00
								6259204.87	2162725.16	1361.51	1336.86
BUILDING		BUILDING00020	x	0		25.00	r	6259194.47	2162718.22	1361.69	1336.69
								6259240.72	2162685.07	1361.69	1337.00

Name	M.	ID	RB	Residents	Absorption	Height	Coordinates			
						Begin	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)
							6259214.51	2162647.68	1361.69	1337.00
							6259175.58	2162674.28	1361.69	1336.44

APPENDIX 11.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

This page intentionally left blank

RCNM Construction Equipment Reference Noise Levels[1]

1	2	9	10	11	12	13	14	15
Type #	**AQ Description**	**rcnm #**	**RCNM Description**	**Usage Factor[2]**	**dBA L_{max} at 50 ft**	**Sound Power Level Lmax**	**dBA L_{eq} at 50 ft**	**Sound Power Level Leq**
1	Air Compressors	10	Compressor (air)	40%	78	110	74	106
2	Backhoes	3	Backhoe	40%	78	110	74	106
3	Compactors	9	Compactor (ground)	20%	83	115	76	108
4	Concrete Paving Machine	1	All Other Equip	50%	85	117	82	114
5	Cranes	15	Crane	16%	81	113	73	105
6	Crawler Tractors	16	Dozer	40%	82	114	78	110
7	Demolition Equipment	1	All Other Equip	50%	85	117	82	114
8	Drilling Rig	17	Drill Rig Truck	20%	79	111	72	104
9	Excavators	20	Excavator	40%	81	113	77	109
10	Forklifts	1	All Other Equip	50%	85	117	82	114
11	Generator Sets	24	Generator (<25kVA)	50%	73	105	70	102
12	Graders	26	Grader	40%	85	117	81	113
13	Hauling Trucks	19	Dump Truck	40%	76	108	72	104
14	Loaders	22	Front End Loader	40%	79	111	75	107
15	Pavers	35	Paver	50%	77	109	74	106
16	Paving Equipment	1	All Other Equip	50%	85	117	82	114
17	Rollers	42	Roller	20%	80	112	73	105
18	Rubber Tired Dozers	22	Front End Loader	40%	79	111	75	107
19	Scrapers	44	Scraper	40%	84	116	80	112
20	Tractors	49	Tractor	40%	84	116	80	112
21	Welders	57	Welder/Torch	40%	74	106	70	102

No usage factor has been applied to the DEFRA noise levels since they already represent Leq levels.

14362 - Wildomar Crossroads

CadnaA Noise Prediction Model: 14362-02 Construction.cna
Date: 07.01.22
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	Value
General	
Country	(user defined)
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	304.80
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (RLS-90)	
Strictly acc. to RLS-90	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	54.0	54.0	60.7	65.0	45.0	0.0				5.00	r	6259324.06	2163330.64	1352.91
RECEIVERS		R2	53.4	53.4	60.1	65.0	45.0	0.0				5.00	r	6259872.88	2163435.42	1371.07
RECEIVERS		R3	52.6	52.6	59.3	65.0	45.0	0.0				5.00	r	6260028.66	2162438.92	1334.00
RECEIVERS		R4	61.3	61.3	67.9	65.0	45.0	0.0				5.00	r	6259270.39	2162636.64	1340.81
RECONSITE		MF1	73.3	73.3	80.0	65.0	45.0	0.0				5.00	r	6259586.39	2163144.23	1345.20
RECONSITE		MF2	73.5	73.5	80.2	65.0	45.0	0.0				5.00	r	6259583.24	2162989.13	1344.80
RECONSITE		MF3	73.6	73.6	80.3	65.0	45.0	0.0				5.00	r	6259542.90	2162872.81	1343.60
RECONSITE		MF4	73.2	73.2	79.9	65.0	45.0	0.0				5.00	r	6259539.75	2162764.87	1338.73
RECONSITE		MF5	72.8	72.8	79.5	65.0	45.0	0.0				5.00	r	6259536.09	2162608.21	1338.25

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL"			Lw / Li			Operating Time			Height
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	
SITEBOUNDARY		CONSTRUCTION	115.0	115.0	115.0	69.3	69.3	69.3	Lw	115					8

Name	Height				Coordinates			
	Begin		End		x	y	z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	r			6259288.18	2162599.45	1342.41	1334.41
					6259298.68	2163230.99	1354.96	1346.96

Name	Height		Coordinates			
	Begin	End	x	y	z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6259920.41	2163222.59	1356.01	1348.01
			6259913.31	2162614.65	1344.90	1336.90
			6259894.05	2162591.87	1343.52	1335.52
			6259864.79	2162592.24	1341.06	1333.06
			6259701.51	2162561.23	1337.16	1329.16
			6259543.54	2162561.54	1335.84	1327.84
			6259544.57	2162596.24	1339.44	1331.44

Barrier(s)

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
			left	right		horz.	vert.	Begin	End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
BARRIEREXISTING		0						6.00 r		6259098.61	2162601.82	1338.84	1332.84
										6259123.74	2162601.50	1338.99	1332.99
										6259123.78	2162601.50	1338.99	1332.99
										6259123.88	2162601.50	1338.99	1332.99
										6259124.10	2162601.50	1339.00	1333.00
										6259139.89	2162601.30	1339.54	1333.54
										6259163.59	2162601.01	1339.16	1333.16
										6259167.65	2162600.96	1339.08	1333.08
										6259173.51	2162600.88	1339.30	1333.30
										6259176.94	2162600.84	1339.12	1333.12
										6259187.70	2162600.70	1339.10	1333.10
										6259188.54	2162600.69	1339.09	1333.09
										6259191.05	2162600.66	1339.55	1333.55
										6259192.47	2162600.64	1339.78	1333.78
										6259196.84	2162600.59	1340.00	1334.00
										6259198.91	2162600.56	1340.12	1334.12
										6259200.00	2162600.55	1340.15	1334.15
										6259207.51	2162600.46	1340.30	1334.30
										6259212.79	2162600.39	1340.16	1334.16
										6259220.75	2162600.29	1340.00	1334.00
										6259220.80	2162600.29	1340.00	1334.00
										6259220.85	2162600.29	1340.00	1334.00
										6259266.24	2162599.72	1339.93	1333.93
										6259267.93	2162599.70	1339.94	1333.94
										6259272.21	2162599.65	1339.80	1333.80
										6259273.59	2162599.63	1339.87	1333.87
										6259278.63	2162599.57	1340.00	1334.00
										6259288.18	2162599.45	1340.41	1334.41
										6259288.25	2162603.66	1341.00	1335.00
										6259288.25	2162603.67	1341.00	1335.00
										6259288.50	2162618.19	1341.99	1335.99
										6259288.76	2162633.19	1342.99	1336.99
										6259288.76	2162633.25	1343.00	1337.00
										6259289.02	2162648.11	1342.92	1336.92
										6259289.26	2162662.03	1342.20	1336.20
										6259289.35	2162667.25	1342.36	1336.36
										6259289.52	2162677.28	1342.54	1336.54
										6259289.95	2162702.05	1342.99	1336.99
										6259289.95	2162702.19	1342.98	1336.98
										6259290.15	2162713.84	1342.76	1336.76
										6259290.32	2162724.03	1341.99	1335.99
										6259290.42	2162729.32	1341.99	1335.99
										6259290.62	2162741.22	1342.98	1336.98
										6259290.62	2162741.43	1342.99	1336.99
										6259290.84	2162753.83	1343.99	1337.99
										6259291.00	2162763.02	1343.84	1337.84
										6259291.25	2162777.86	1343.99	1337.99
										6259291.25	2162777.99	1343.98	1337.98
										6259291.26	2162778.21	1343.99	1337.99
										6259291.75	2162806.57	1343.24	1337.24
										6259291.90	2162815.54	1343.00	1337.00
										6259292.28	2162837.55	1343.99	1337.99
										6259292.29	2162838.07	1344.00	1338.00
										6259292.55	2162853.54	1344.00	1338.00
										6259293.34	2162898.95	1344.00	1338.00
										6259293.34	2162899.34	1344.00	1338.00
										6259293.34	2162899.42	1344.00	1338.00
										6259293.35	2162899.76	1344.00	1338.00
										6259293.49	2162908.02	1344.98	1338.98
										6259293.54	2162910.78	1345.97	1339.97
										6259293.58	2162913.09	1346.95	1340.95
										6259293.62	2162915.60	1347.94	1341.94
										6259293.67	2162918.21	1348.92	1342.92
										6259293.77	2162924.31	1350.27	1344.27

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
			left	right		horz.	vert.	Begin	End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
										6259293.84	2162928.02	1350.89	1344.89
										6259293.92	2162932.70	1351.87	1345.87
										6259293.93	2162933.24	1351.88	1345.88
										6259294.22	2162950.19	1350.50	1344.50
										6259294.35	2162958.05	1349.89	1343.89
										6259294.45	2162963.35	1349.47	1343.47
										6259294.63	2162974.16	1351.86	1345.86
										6259294.63	2162974.31	1351.94	1345.94
										6259294.64	2162974.42	1351.96	1345.96
										6259294.65	2162975.47	1351.87	1345.87
										6259295.42	2163020.05	1348.58	1342.58
										6259295.46	2163022.38	1348.96	1342.96
										6259295.50	2163024.36	1348.96	1342.96
										6259295.61	2163030.98	1351.85	1345.85
										6259295.70	2163036.30	1351.85	1345.85
										6259296.17	2163063.45	1351.84	1345.84
										6259296.18	2163064.29	1351.98	1345.98
										6259296.20	2163064.97	1351.87	1345.87
										6259296.53	2163084.38	1350.76	1344.76
										6259296.75	2163097.87	1349.99	1343.99
										6259296.88	2163105.70	1351.61	1345.61
										6259296.99	2163112.37	1351.05	1345.05
										6259297.14	2163121.35	1350.89	1344.89
										6259297.58	2163148.23	1350.81	1344.81
										6259297.66	2163153.56	1352.82	1346.82
										6259297.74	2163158.13	1352.82	1346.82
										6259297.80	2163162.06	1352.41	1346.41
										6259297.87	2163167.38	1351.86	1345.86
										6259297.96	2163174.67	1351.87	1345.87
										6259297.97	2163175.22	1351.98	1345.98
										6259298.22	2163194.64	1351.99	1345.99
										6259298.24	2163196.92	1351.99	1345.99
										6259298.25	2163197.05	1352.04	1346.04
										6259298.25	2163197.07	1352.04	1346.04
										6259298.35	2163205.24	1352.36	1346.36
										6259298.35	2163205.43	1352.35	1346.35
										6259298.36	2163205.68	1352.34	1346.34
										6259298.36	2163205.98	1352.31	1346.31
										6259298.54	2163220.47	1352.22	1346.22
										6259298.55	2163220.76	1352.24	1346.24
										6259298.56	2163221.62	1352.32	1346.32
										6259298.68	2163230.99	1352.96	1346.96
										6259303.74	2163230.92	1354.00	1348.00
										6259303.75	2163230.92	1354.00	1348.00
										6259309.55	2163230.85	1355.00	1349.00
										6259309.55	2163230.85	1355.00	1349.00
										6259309.55	2163230.85	1355.00	1349.00
										6259309.56	2163230.85	1355.00	1349.00
										6259315.13	2163230.78	1356.00	1350.00
										6259315.13	2163230.78	1356.00	1350.00
										6259318.12	2163230.74	1357.00	1351.00
										6259318.13	2163230.74	1357.00	1351.00
										6259321.35	2163230.70	1358.00	1352.00
										6259324.62	2163230.65	1359.00	1353.00
										6259324.63	2163230.65	1359.00	1353.00
										6259328.33	2163230.61	1359.99	1353.99
										6259328.36	2163230.61	1360.00	1354.00
										6259328.37	2163230.61	1360.00	1354.00
										6259332.75	2163230.55	1361.00	1355.00
										6259359.48	2163230.20	1361.99	1355.99
										6259359.64	2163230.20	1361.99	1355.99
										6259361.59	2163230.17	1361.99	1355.99
										6259361.69	2163230.17	1361.99	1355.99
										6259369.16	2163230.08	1358.64	1352.64
										6259387.65	2163229.84	1361.99	1355.99
										6259387.85	2163229.83	1361.99	1355.99
										6259387.97	2163229.83	1362.00	1356.00
										6259394.96	2163229.74	1362.00	1356.00
										6259395.13	2163229.74	1361.99	1355.99
										6259395.58	2163229.73	1361.97	1355.96
										6259404.12	2163229.62	1360.13	1354.13
										6259428.87	2163229.30	1361.00	1355.00
										6259429.58	2163229.29	1361.00	1355.00
										6259429.85	2163229.29	1360.99	1354.99
										6259442.03	2163229.13	1360.00	1354.00
										6259442.37	2163229.13	1359.98	1353.98
										6259455.05	2163228.96	1359.00	1353.00

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
			left	right		horz.	vert.	Begin	End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
										6259455.20	2163228.96	1358.99	1352.99
										6259464.07	2163228.85	1358.27	1352.27
										6259467.39	2163228.80	1358.00	1352.00
										6259467.48	2163228.80	1357.99	1351.99
										6259467.84	2163228.80	1357.97	1351.97
										6259475.74	2163228.70	1353.82	1347.82
										6259480.68	2163228.63	1357.00	1351.00
										6259480.85	2163228.63	1356.98	1350.98
										6259489.57	2163228.52	1356.00	1350.00
										6259489.66	2163228.51	1355.99	1349.99
										6259490.05	2163228.51	1355.96	1349.96
										6259500.29	2163228.38	1355.00	1349.00
										6259500.43	2163228.38	1354.98	1348.98
										6259518.62	2163228.14	1354.00	1348.00
										6259518.88	2163228.14	1354.00	1348.00
										6259519.20	2163228.13	1353.97	1347.97
										6259530.13	2163227.99	1353.00	1347.00
										6259530.32	2163227.99	1352.98	1346.98
										6259540.28	2163227.86	1352.00	1346.00
										6259540.54	2163227.86	1351.98	1345.98
										6259541.26	2163227.85	1351.96	1345.96
										6259568.34	2163227.50	1351.00	1345.00
										6259568.52	2163227.49	1350.98	1344.98
										6259568.63	2163227.49	1350.99	1344.99
										6259569.41	2163227.48	1350.97	1344.97
										6259595.59	2163227.14	1349.06	1343.06
										6259607.51	2163226.99	1348.89	1342.89
										6259629.46	2163226.70	1349.85	1343.85
										6259632.86	2163226.66	1350.00	1344.00
										6259633.27	2163226.65	1349.98	1343.98
										6259633.39	2163226.65	1349.98	1343.98
										6259637.32	2163226.59	1349.98	1343.98
										6259637.50	2163226.59	1349.98	1343.98
										6259638.99	2163226.57	1349.98	1343.98
										6259644.41	2163226.49	1349.98	1343.98
										6259644.67	2163226.49	1350.00	1344.00
										6259652.07	2163226.38	1350.00	1344.00
										6259652.20	2163226.38	1350.00	1344.00
										6259652.30	2163226.38	1349.98	1343.98
										6259652.39	2163226.38	1349.99	1343.99
										6259663.42	2163226.22	1348.47	1342.47
										6259667.16	2163226.17	1348.44	1342.44
										6259677.12	2163226.03	1349.00	1343.00
										6259677.27	2163226.03	1349.00	1343.00
										6259677.38	2163226.03	1349.00	1343.00
										6259695.43	2163225.77	1348.01	1342.01
										6259695.45	2163225.77	1348.01	1342.01
										6259695.70	2163225.77	1348.00	1342.00
										6259729.49	2163225.29	1347.02	1341.02
										6259730.13	2163225.28	1347.00	1341.00
										6259730.23	2163225.28	1347.00	1341.00
										6259733.27	2163225.24	1347.40	1341.40
										6259756.75	2163224.90	1347.33	1341.33
										6259761.50	2163224.84	1347.00	1341.00
										6259761.71	2163224.83	1347.01	1341.01
										6259776.87	2163224.62	1348.00	1342.00
										6259776.92	2163224.62	1348.00	1342.00
										6259777.08	2163224.62	1348.00	1342.00
										6259794.84	2163224.36	1348.69	1342.69
										6259802.11	2163224.27	1348.98	1342.98
										6259808.67	2163224.18	1348.88	1342.88
										6259816.81	2163224.07	1349.52	1343.52
										6259835.64	2163223.81	1349.21	1343.21
										6259843.47	2163223.70	1349.04	1343.04
										6259858.33	2163223.50	1349.00	1343.00
										6259858.75	2163223.49	1349.01	1343.01
										6259858.90	2163223.49	1349.01	1343.01
										6259867.15	2163223.38	1349.01	1343.01
										6259870.21	2163223.34	1349.01	1343.01
										6259870.33	2163223.34	1349.01	1343.01
										6259890.49	2163223.06	1350.00	1344.00
										6259890.58	2163223.06	1350.01	1344.01
										6259898.03	2163222.96	1351.00	1345.00
										6259898.09	2163222.96	1351.01	1345.01
										6259903.13	2163222.89	1352.00	1346.00
										6259903.17	2163222.89	1352.01	1346.01
										6259910.83	2163222.78	1353.30	1347.30

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIEREXISTING		0						6.00	r		6259298.68	2163230.99	1352.96	1346.96
											6259342.93	2163387.79	1353.59	1347.59
											6259259.99	2163436.77	1353.93	1347.93
BARRIEREXISTING		0						6.00	r		6259928.20	2163677.36	1272.95	1266.95
											6259926.21	2163633.69	1307.30	1301.30
											6259925.68	2163621.91	1320.19	1314.19
											6259921.13	2163577.83	1368.56	1362.56
											6259920.83	2163574.88	1371.49	1365.49
											6259920.04	2163567.18	1371.30	1365.30
											6259919.69	2163563.88	1371.22	1365.22
											6259919.11	2163558.24	1371.30	1365.30
											6259917.19	2163539.55	1371.41	1365.41
											6259916.53	2163533.20	1371.89	1365.89
											6259916.48	2163532.75	1371.93	1365.93
											6259915.82	2163526.31	1372.00	1366.00
											6259914.92	2163517.57	1372.09	1366.09
											6259914.85	2163516.92	1372.05	1366.05
											6259914.70	2163515.40	1372.00	1366.00
											6259914.01	2163508.78	1371.70	1365.70
											6259913.65	2163505.30	1371.63	1365.63
											6259913.24	2163501.26	1371.38	1365.38
											6259912.75	2163496.51	1372.00	1366.00
											6259912.70	2163496.00	1372.07	1366.07
											6259912.63	2163495.40	1372.12	1366.12
											6259911.54	2163484.78	1372.49	1366.49
											6259911.24	2163481.85	1372.49	1366.49
											6259911.04	2163479.90	1372.28	1366.28
											6259910.59	2163475.61	1372.00	1366.00
											6259910.19	2163471.70	1371.54	1365.54
											6259909.68	2163466.71	1371.00	1365.00
											6259909.54	2163465.42	1370.79	1364.79
											6259908.98	2163459.95	1370.26	1364.26
											6259904.77	2163456.55	1371.00	1365.00
											6259900.77	2163453.32	1371.57	1365.57
											6259898.96	2163451.86	1372.00	1366.00
											6259897.36	2163450.56	1372.00	1366.00
											6259896.27	2163449.68	1371.79	1365.79
											6259891.23	2163445.61	1372.00	1366.00
											6259890.54	2163445.05	1372.02	1366.02
											6259890.41	2163444.95	1372.02	1366.02
											6259888.85	2163443.69	1372.00	1366.00
											6259875.11	2163432.58	1371.34	1365.34
											6259862.40	2163433.69	1372.00	1366.00
											6259856.42	2163434.21	1372.33	1366.33
											6259854.85	2163434.35	1372.34	1366.34
											6259853.76	2163434.44	1372.26	1366.26
											6259850.34	2163434.74	1372.00	1366.00
											6259846.99	2163435.03	1371.60	1365.60
											6259842.32	2163435.44	1371.00	1365.00
											6259838.07	2163435.81	1370.40	1364.40
											6259835.87	2163436.01	1370.66	1364.66
											6259833.26	2163436.23	1371.00	1365.00
											6259825.06	2163436.95	1371.59	1365.59
											6259821.42	2163437.27	1371.94	1365.94
											6259820.93	2163437.31	1371.95	1365.95
											6259819.32	2163437.45	1372.00	1366.00
											6259817.59	2163437.60	1372.00	1366.00
											6259816.66	2163437.68	1372.00	1366.00
											6259815.78	2163437.76	1372.00	1366.00
											6259810.05	2163438.26	1371.69	1365.69
											6259801.95	2163438.97	1371.19	1365.19
											6259800.37	2163439.11	1371.06	1365.06
											6259799.89	2163439.15	1371.02	1365.02
											6259798.98	2163439.23	1371.05	1365.05
											6259789.35	2163440.07	1371.14	1365.14
											6259788.84	2163440.11	1371.25	1365.25
											6259783.25	2163440.60	1371.00	1365.00
											6259781.89	2163440.72	1370.92	1364.92
											6259780.78	2163440.82	1371.00	1365.00
											6259769.73	2163441.78	1371.48	1365.48
											6259764.33	2163442.69	1371.10	1365.10
											6259763.99	2163442.74	1371.06	1365.06
											6259763.39	2163442.84	1371.02	1365.02
											6259757.10	2163443.90	1371.00	1365.00
											6259740.00	2163446.77	1370.82	1364.82
											6259737.92	2163447.12	1371.00	1365.00
											6259732.41	2163448.04	1371.27	1365.27

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
			left	right		horz.	vert.	Begin	End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
										6259731.45	2163448.20	1371.37	1365.37
										6259725.84	2163449.14	1371.38	1365.38
										6259722.82	2163449.65	1371.32	1365.32
										6259721.05	2163449.95	1371.00	1365.00
										6259720.82	2163449.98	1370.95	1364.95
										6259715.91	2163450.81	1370.58	1364.58
										6259710.22	2163452.78	1370.40	1364.40
										6259705.08	2163454.56	1370.84	1364.84
										6259703.93	2163454.95	1370.91	1364.91
										6259699.40	2163456.52	1370.60	1364.60
										6259691.78	2163459.16	1370.59	1364.59
										6259686.33	2163461.05	1371.00	1365.00
										6259686.00	2163461.16	1371.00	1365.00
										6259683.45	2163462.04	1370.49	1364.49
										6259679.92	2163463.26	1370.22	1364.22
										6259678.17	2163463.87	1370.16	1364.16
										6259672.58	2163465.81	1370.00	1364.00
										6259664.27	2163468.68	1369.82	1363.82
										6259658.86	2163470.56	1369.39	1363.39
										6259652.63	2163472.71	1369.00	1363.00
										6259652.50	2163472.76	1368.99	1362.99
										6259651.85	2163472.98	1368.96	1362.96
										6259634.66	2163478.93	1368.50	1362.50
										6259629.22	2163481.47	1368.90	1362.90
										6259612.50	2163489.26	1368.00	1362.00
										6259602.88	2163493.74	1367.53	1361.53
										6259601.10	2163494.57	1368.00	1362.00
										6259599.13	2163495.48	1368.43	1362.43
										6259596.49	2163496.71	1369.00	1363.00
										6259592.82	2163498.43	1369.36	1363.36
										6259590.19	2163499.65	1369.48	1363.48
										6259587.54	2163500.89	1370.00	1364.00
										6259587.02	2163501.13	1370.10	1364.10
										6259585.31	2163501.92	1371.00	1365.00
										6259584.37	2163502.36	1371.44	1365.44
										6259573.55	2163507.41	1370.75	1364.75
										6259570.21	2163509.20	1370.00	1364.00
										6259568.30	2163510.22	1369.34	1363.34
										6259566.38	2163511.25	1369.00	1363.00
										6259564.13	2163512.46	1368.66	1362.66
										6259561.02	2163514.13	1368.55	1362.55
										6259554.26	2163517.76	1368.37	1362.37
										6259547.74	2163521.25	1368.69	1362.69
										6259543.84	2163523.34	1368.86	1362.86
										6259538.45	2163526.24	1368.57	1362.57
										6259534.44	2163528.39	1368.50	1362.50
										6259529.67	2163530.95	1368.21	1362.21
										6259527.87	2163531.92	1368.07	1362.07
										6259519.52	2163536.40	1368.15	1362.15
										6259516.60	2163537.96	1368.01	1362.01
										6259506.87	2163543.54	1367.21	1361.21
										6259505.46	2163544.35	1367.03	1361.03
										6259500.99	2163546.91	1367.00	1361.00
										6259496.67	2163549.39	1366.88	1360.88
										6259493.79	2163551.04	1366.88	1360.88
										6259470.97	2163564.13	1366.88	1360.88
										6259468.88	2163565.32	1366.68	1360.68
										6259465.02	2163567.54	1366.20	1360.20
										6259464.14	2163568.04	1366.17	1360.17
										6259451.46	2163575.31	1366.22	1360.22
										6259447.39	2163577.65	1366.00	1360.00
										6259446.22	2163578.32	1366.00	1360.00
										6259440.43	2163581.64	1365.42	1359.42
										6259435.27	2163584.60	1365.50	1359.50
										6259426.07	2163589.87	1365.22	1359.22
										6259424.22	2163590.93	1365.00	1359.00
										6259413.82	2163596.89	1364.00	1358.00
										6259413.74	2163596.94	1364.01	1358.01
										6259409.98	2163599.10	1364.61	1358.61
										6259406.80	2163600.92	1364.82	1358.82
										6259403.19	2163602.99	1365.00	1359.00
										6259397.15	2163606.46	1365.32	1359.32
										6259396.28	2163606.95	1365.21	1359.21
										6259391.25	2163609.84	1364.73	1358.73
										6259387.28	2163612.20	1364.00	1358.00
										6259385.53	2163613.24	1363.73	1357.73
										6259380.64	2163616.15	1363.00	1357.00

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	x	y	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
											6259375.89	2163618.97	1362.36	1356.36
											6259373.49	2163620.41	1362.00	1356.00
											6259372.32	2163621.10	1361.68	1355.68
											6259365.69	2163625.04	1361.00	1355.00
											6259364.86	2163625.54	1360.91	1354.91
											6259352.59	2163632.84	1360.00	1354.00
											6259346.40	2163636.52	1359.58	1353.58
											6259341.38	2163639.51	1359.00	1353.00
											6259336.39	2163642.48	1358.51	1352.51

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height		Coordinates			
						Begin		x	y	z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00010	x	0		25.00	r	6259248.82	2163429.83	1372.63	1347.63
								6259290.84	2163405.93	1372.63	1347.04
								6259266.55	2163365.84	1372.63	1347.00
								6259217.21	2163394.37	1372.63	1346.44
BUILDING		BUILDING00011	x	0		25.00	r	6259206.80	2163386.27	1370.65	1345.65
								6259254.60	2163359.29	1370.65	1345.95
								6259231.86	2163318.04	1370.65	1346.00
								6259183.29	2163346.18	1370.65	1345.00
BUILDING		BUILDING00012	x	0		25.00	r	6259164.78	2163341.56	1369.13	1344.13
								6259206.42	2163315.34	1369.13	1344.44
								6259186.37	2163277.57	1369.13	1343.27
								6259129.70	2163309.95	1369.13	1343.02
BUILDING		BUILDING00013	x	0		25.00	r	6259119.68	2163301.08	1368.00	1343.00
								6259162.47	2163274.48	1368.00	1342.11
								6259138.18	2163235.16	1368.00	1342.29
								6259088.07	2163264.07	1368.00	1341.40
BUILDING		BUILDING00014	x	0		25.00	r	6259202.95	2163203.55	1370.00	1345.00
								6259228.77	2163164.62	1370.00	1345.00
								6259182.90	2163130.70	1370.00	1344.19
								6259161.70	2163173.48	1370.00	1344.05
BUILDING		BUILDING00015	x	0		25.00	r	6259217.21	2163135.32	1369.91	1344.91
								6259252.29	2163140.72	1369.91	1345.00
								6259263.08	2163098.70	1369.91	1345.00
								6259212.20	2163086.36	1369.91	1344.49
BUILDING		BUILDING00016	x	0		25.00	r	6259222.22	2163074.41	1369.88	1344.88
								6259265.40	2163056.30	1369.88	1345.00
								6259247.66	2163015.05	1369.88	1345.00
								6259193.70	2163037.02	1369.88	1344.51
BUILDING		BUILDING00017	x	0		25.00	r	6259155.53	2162990.76	1369.20	1344.20
								6259194.47	2163025.46	1369.20	1344.72
								6259238.41	2162972.26	1369.20	1345.00
								6259196.78	2162942.58	1369.20	1345.00
BUILDING		BUILDING00018	x	0		25.00	r	6259203.33	2162857.77	1362.68	1337.68
								6259240.72	2162828.09	1362.68	1337.00
								6259202.56	2162788.38	1362.68	1336.59
								6259166.71	2162819.61	1362.68	1336.45
BUILDING		BUILDING00019	x	0		25.00	r	6259196.78	2162774.50	1361.51	1336.51
								6259253.45	2162771.42	1361.51	1337.00
								6259249.59	2162723.23	1361.51	1337.00
								6259204.87	2162725.16	1361.51	1336.86
BUILDING		BUILDING00020	x	0		25.00	r	6259194.47	2162718.22	1361.69	1336.69
								6259240.72	2162685.07	1361.69	1337.00
								6259214.51	2162647.68	1361.69	1337.00
								6259175.58	2162674.28	1361.69	1336.44

WILDOMAR CROSSROADS

TRAFFIC IMPACT ANALYSIS

Prepared For:

Sage Investco,
4340 Von Karman Avenue #110,
Newport Beach, CA 92660

Prepared By:

ENVIRONMENT | PLANNING | DEVELOPMENT SOLUTIONS, INC.

2355 Main Street, Suite 100
Irvine, CA 92614
(949) 794-1180

Contact: Abby Pal
abby@epdsolutions.com



October 4, 2022

Table of Contents

1 EXECUTIVE SUMMARY 1

2 INTRODUCTION 4
2.1 Project Description 4
2.2 Project Frontage Improvements 4
2.3 Study Area and Analysis Scenarios 8
2.4 Methodology 10
2.5 Significance Criteria 11

3 BASELINE CONDITIONS 12
3.1 Existing Transportation System and Access 12
3.2 Existing Traffic Volumes and Intersection Operations 14

4 PROPOSED PROJECT 17
4.1 Project Trip Generation 17
4.2 Project Trips 17

5 PROJECT IMPACTS 25
5.1 Project Completion (2024) Conditions 25
5.1.1 Project Completion Traffic Volumes and Intersection Operations 25
5.2 Cumulative (2024) Conditions 28
5.2.1 Cumulative Projects 28
5.2.2 Cumulative Conditions Traffic Volumes and Intersection Operations 33

6 PROJECT QUEUEING AND TRUCK TURNING 36
6.1 Project Queueing 36
6.2 Truck Turning 37

7 RECOMMENDED PROJECT IMPROVEMENTS AND FAIR SHARE 40
7.1 Recommended Project Improvements 40
7.2 Project Fair Share for LOS and Queueing Improvements 42

Figures

Figure 1: Project Location 5
Figure 2A: Project Site Plan 6
Figure 2B: Proposed Project Frontage Improvements 7
Figure 3: Project Study Area 9
Figure 4: Existing Lane Geometries and Traffic Control 13
Figure 5: Existing AM Peak Hour Traffic Volumes 15
Figure 6: Existing PM Peak Hour Traffic Volumes 16
Figure 7: Project Retail Trip Distribution 19
Figure 8: Project Residential Trip Distribution 20
Figure 9: Project Retail AM Peak Hour Trip Assignment 21
Figure 10: Project Retail PM Peak Hour Trip Assignment 22
Figure 11: Project Residential AM Peak Hour Trip Assignment 23
Figure 12: Project Residential PM Peak Hour Trip Assignment 24
Figure 13: Project Completion AM Peak Hour Volumes 26
Figure 14: Project Completion PM Peak Hour Volumes 27

Figure 15: Cumulative Projects Location 29
Figure 16: Cumulative Projects AM Peak Hour Traffic Volumes 31
Figure 17: Cumulative Projects PM Peak Hour Traffic Volumes 32
Figure 18: Cumulative Conditions AM Peak Hour Traffic Volumes 34
Figure 19: Cumulative Conditions PM Peak Hour Traffic Volumes 35
Figure 20: Truck Turning at Wildomar Trl/Clinton Keith Rd 38
Figure 21: Truck Turning at Wildomar Trl/Project Dwy 5 39

Tables

Table 1: Relationship between Control Delay and LOS at a Signalized Intersection 10
Table 2: Relationship between Delay and LOS an Unsignalized Intersection 10
Table 3: Existing AM and PM Peak Hour Level of Service 14
Table 4: Project Trip Generation 18
Table 5: Project Completion AM and PM Peak Hour Level of Service 25
Table 6: Cumulative Projects Trip Generation 30
Table 7: Cumulative AM and PM Peak Hour Level of Service 33
Table 8: Project Queueing 37
Table 9: Project Completion Recommended Improvements 41
Table 10: Cumulative Conditions Recommended Improvements 41
Table 11: Cumulative Conditions Project Fair Share 43

Appendices

APPENDIX A – SCOPE OF WORK
APPENDIX B – COUNT SHEETS
APPENDIX C – LEVEL OF SERVICE CALCULATIONS
APPENDIX D – CUMULATIVE DEVELOPMENT PROJECT SPREADSHEET
APPENDIX E – PROJECT FRONTAGE IMPROVEMENT AND GRADING PLAN

1 EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential transportation-related impacts of the proposed Wildomar Crossroads mixed-use development located the northwest corner of the intersection of Clinton Keith Rd and Wildomar Trl in the City of Wildomar. The project site is identified by four adjacent parcels (APNs – 376-410-015, -016, -017, and -021) totaling an area of approximately 10.06 acres. The development proposes the construction of 150 units multifamily housing, 23,104 SF of supermarket, 5,087 SF of shops, 3,348 SF of retail/restaurant area, 2,750 SF of drive-through restaurant, and 1,333 SF of drive-through coffee shop.

The trip generation for the proposed development was analyzed as per the *ITE Trip Generation Manual, 11th Edition, 2021*. The proposed mixed-use development is estimated to generate approximately 4551 daily trips, 282 AM peak hour trips, and 404 PM peak hour trips. The following study area intersections were evaluated during the AM and PM peak hours, which are defined as the hours with the highest traffic volumes during the 7 AM to 9 AM and 4 PM to 6 PM peak commute periods.

1. Wildomar Trl/ Clinton Keith Rd
2. Inland Valley Dr/Clinton Keith Rd
3. Nutmeg St/Clinton Keith Rd
4. California Oaks Rd/Clinton Keith Rd
5. Nutmeg St/Jackson Ave
6. Palomar Rd/Clinton Keith Rd
7. I-15 SB Ramps/Clinton Keith Rd
8. I-15 NB Ramps/Clinton Keith Rd
9. Arya Rd/ Clinton Keith Rd
10. Arya Rd/Catt Rd
11. Wildomar Trl/Project Dwy 3
12. Wildomar Trl/Proj Dwy 4

AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Year Traffic Conditions
- Project Completion (Existing plus Ambient Growth plus Project) Conditions
- Project Completion (Existing plus Ambient Growth plus Project) Conditions with Improvements
- Cumulative (Existing plus Ambient Growth plus Project plus Cumulative Projects) Conditions
- Cumulative (Existing plus Ambient Growth plus Project plus Cumulative Projects) Conditions with Improvements

Existing Conditions Intersection Analysis Results

All intersections operate at acceptable LOS condition in this scenario.

Project Completion (2024) Intersection Analysis Results

All intersections operate at acceptable LOS condition in this scenario except the intersection of Wildomar Trl/Proj Dwy 4 which operates at LOS F during the PM peak hour.

Cumulative Conditions (2024) Intersection Analysis Results

The project would result in unsatisfactory LOS at the following five intersections in this scenario:

- #1- Wildomar Trl/Clinton Keith Rd
- #2- Inland Valley Dr/Clinton Keith Rd
- #6- Palomar Rd/Clinton Keith Rd
- #9- Arya Rd/Clinton Keith Rd
- #12- Wildomar Trl/Proj Dwy 4

The project would result in deficient queueing at the following intersections:

- #1- Wildomar Trl/Clinton Keith Rd
- #2- Inland Valley Dr/Clinton Keith Rd
- #3- Nutmeg St/Clinton Keith Rd
- #4- California Oaks Rd/Clinton Keith Rd
- #6- Palomar Rd/Clinton Keith Rd
- #9- Arya Rd/Clinton Keith Rd

Recommended Improvements

The following improvements are recommended for satisfactory LOS operations:

- #1- Wildomar Trl/Clinton Keith Rd: Construct improvements as per approved CIP at this intersection. Improvements include the addition of WBT receiving lane at project frontage and the modification of WBR to WBTR. Signal modifications include changing SBL and NBL signal permissive phasing to protected permissive and overlapping SBR. In the event the CIP improvements are constructed before the project is constructed, the project would contribute fair-share to improvements at this intersection, as discussed further in Section 7.2.
- #2- Inland Valley Dr/Clinton Keith Rd: Project would contribute fair-share to the CIP at this intersection which improves the intersection to a 4-lane intersection. Improvements include addition of WBT lane and EBT receiving lane.
- #6- Palomar Rd/Clinton Keith Rd: Project would contribute fair-share to intersection improvements as per approved CIP at this intersection. Improvements as per CIP include

addition of 2nd EBL, modification of EBR to EBTR. Modification of WBT to WBTR. Modification on NBTR to NBT, addition of NBR and addition of 2nd SBL. The project's fair-share contributions would be limited to the 2nd SBL improvement on Clinton Keith Rd which would include widening the road to shift the SBR further northwest.

- #9- Arya Rd/Clinton Keith Rd: Construct improvements or provide fair-share as per approved Westpark Promenade Conditions of Approval. Improvements include northbound striping to provide dedicated NBL and NBTR, dedicated SBL and SBTR. Recommended signal modifications include changing NB-SB permissive phasing to protective permissive phasing. Project would construct improvements in the event that its construction commences before the construction of the adjacent Westpark Promenade project; otherwise, project would contribute fair-share for all improvements to this intersection as stated in Section 7.2. Improvements would include widening of Arya Rd to 4 lanes.
- #12- Wildomar Trl/Proj Dwy 4: Construct improvements as project design feature to add Two Stage Gap Acceptance for EBL approach from Project Dwy.

The following improvements are recommended to address deficient queueing:

- Within the City of Wildomar, as a Condition of Approval, the project is required to contribute to the ITS program which is used by the City to resolve queueing operations at impacted intersections as traffic conditions evolve. ITS uses various methods, such as intersection cameras, loop detection, and timing modifications to optimize intersection operations in real time.
- For intersections within the City of Murrieta (Nutmeg St/Clinton Keith Rd and California Oaks Rd/Clinton Keith Rd) the project will contribute payment to City of Murrieta CIP #13039 (Traffic Signal Adaptive Timing Program – Citywide). The applicant would work with the City of Murrieta to address queuing at the two intersections with contribution to the adaptive signal timing program.

Project Fair Share

The fair share percentage for recommended intersection improvements is listed below:

- #1- Wildomar Trl/Clinton Keith Rd: 9.62%
- #2- Inland Valley Dr/Clinton Keith Rd: 7.54%
- #3- Nutmeg St/Clinton Keith Rd: 9.46%
- #4- California Oaks Rd/Clinton Keith Rd: 8.01%
- #6- Palomar Rd/Clinton Keith Rd: 8.15%
- #9- Arya Rd/Clinton Keith Rd: 8.22%

2 INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential transportation-related impacts of the proposed Wildomar Crossroads mixed-use development located the northwest corner of the intersection of Clinton Keith Rd and Wildomar Trl in the City of Wildomar. The scope of work for this TIA was reviewed and approved by the City of Wildomar and is provided in *Appendix A*. The TIA was prepared according to the approved scope of work using methodologies and significance criteria consistent as per the Riverside County Transportation Analysis Guidelines and the City of Wildomar General Plan.

2.1 Project Description

The project site is identified by four adjacent parcels (APNs – 376-410-015, -016, -017, and -021) totaling an area of approximately 10.06 acres. The existing site is currently vacant. The development proposes the construction of 150 multifamily housing dwelling units, 23,104 SF of supermarket, 5,087 SF of shops, 3,348 SF of retail/restaurant area, 2,750 SF of drive-through restaurant, and 1,333 SF of drive-through coffee shop. Please note that the project description had been updated post approval of the TIA scope of work such that the area of the total area of the shops increased by 1,087 SF and the area of the drive-through restaurant increased by 150 SF. This TIA utilizes the most updated project description for the purpose of analysis. The location of the project is shown in *Figure 1* and the project site plan is shown in *Figure 2A*.

The proposed development has a total of six driveways. The multifamily development part of the project has driveways separate from the shopping center development, with one entrance on Catt Rd and the other entrance on Wildomar Trl. Both multifamily development project driveways are gated. The shopping center has four separate driveway with one driveway on Catt Rd and the other three on Wildomar Trl. The northern most driveways on Wildomar Trl providing access to the grocery store is primary for truck access. Trucks would not be utilizing any other driveway to access the project site. The other three project driveways are accessible to passenger vehicles. The multifamily development has direct pedestrian access to the shopping center through a gated central access that opens onto the plaza in front of the grocery store.

2.2 Project Frontage Improvements

Please note as per the grading plans provided to EPD, Clinton Keith Rd will be expanded to six-lanes immediately adjacent to the project site as shown in Fi*gure 2B*. A NBL turn lane and a two-stage gap acceptance or two-way-left-turn lane (TWLTL) for EBL turns out of the project driveway will also be included at the intersection of Wildomar Trl/Project Dwy 4 as shown in the figure. The street improvement plan for Clinton Keith Rd and grading plan which includes typical street cross-sections in the immediate vicinity of the project site are attached in *Appendix E for* reference.

Figure 1: Project Location

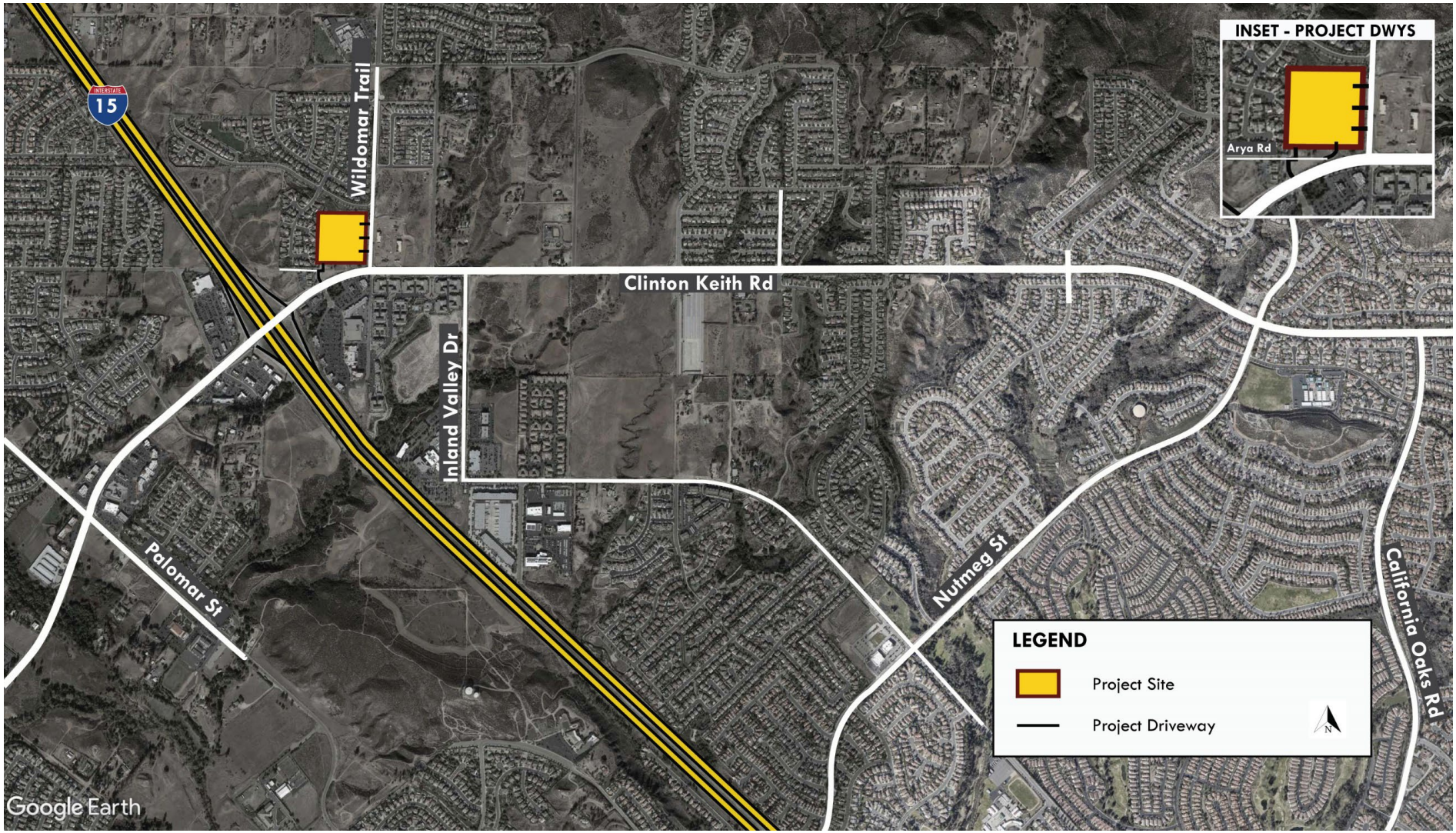


Figure 2A: Project Site Plan

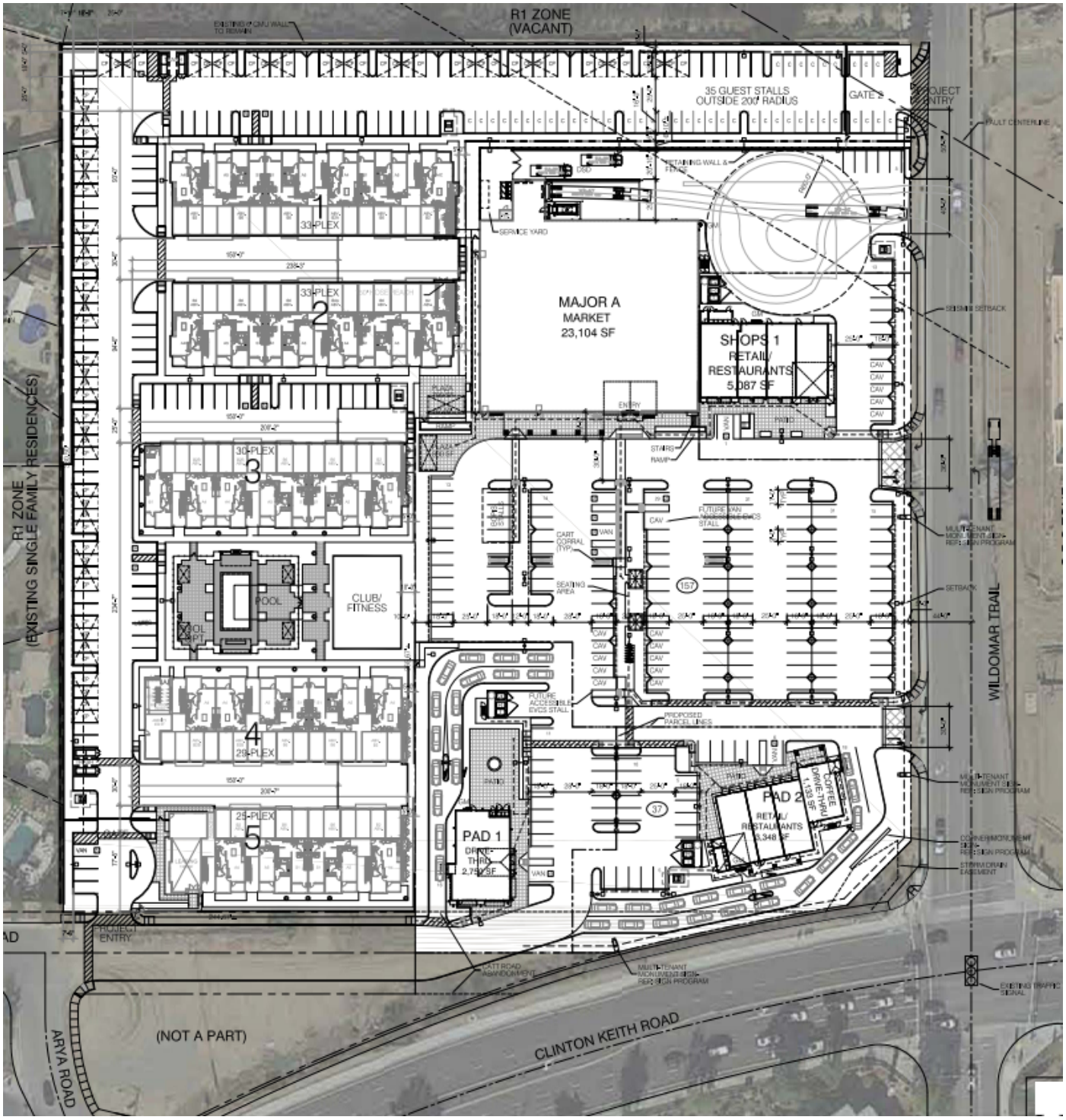
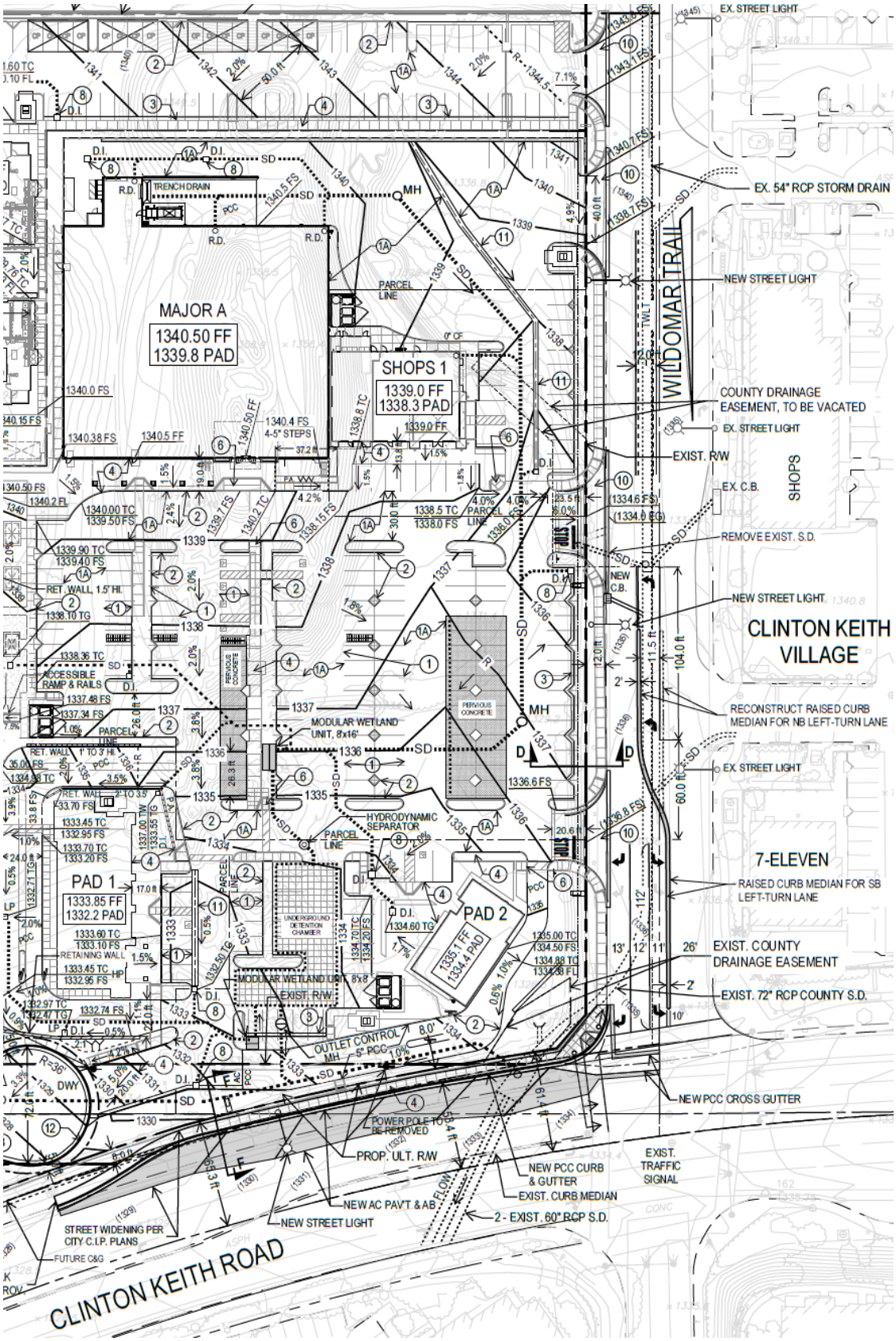


Figure 2B: Proposed Project Frontage Improvements



2.3 Study Area and Analysis Scenarios

The City of Wildomar requires that the traffic and circulation impacts of proposed development projects be analyzed. The study area was selected to include those intersections to which the project would add 50 or more peak hour trips. This TIA includes the analysis of signalized intersections, all-way stop controlled (AWSC) and two-way stop controlled (TWSC) intersections. The following intersections were included in the analysis:

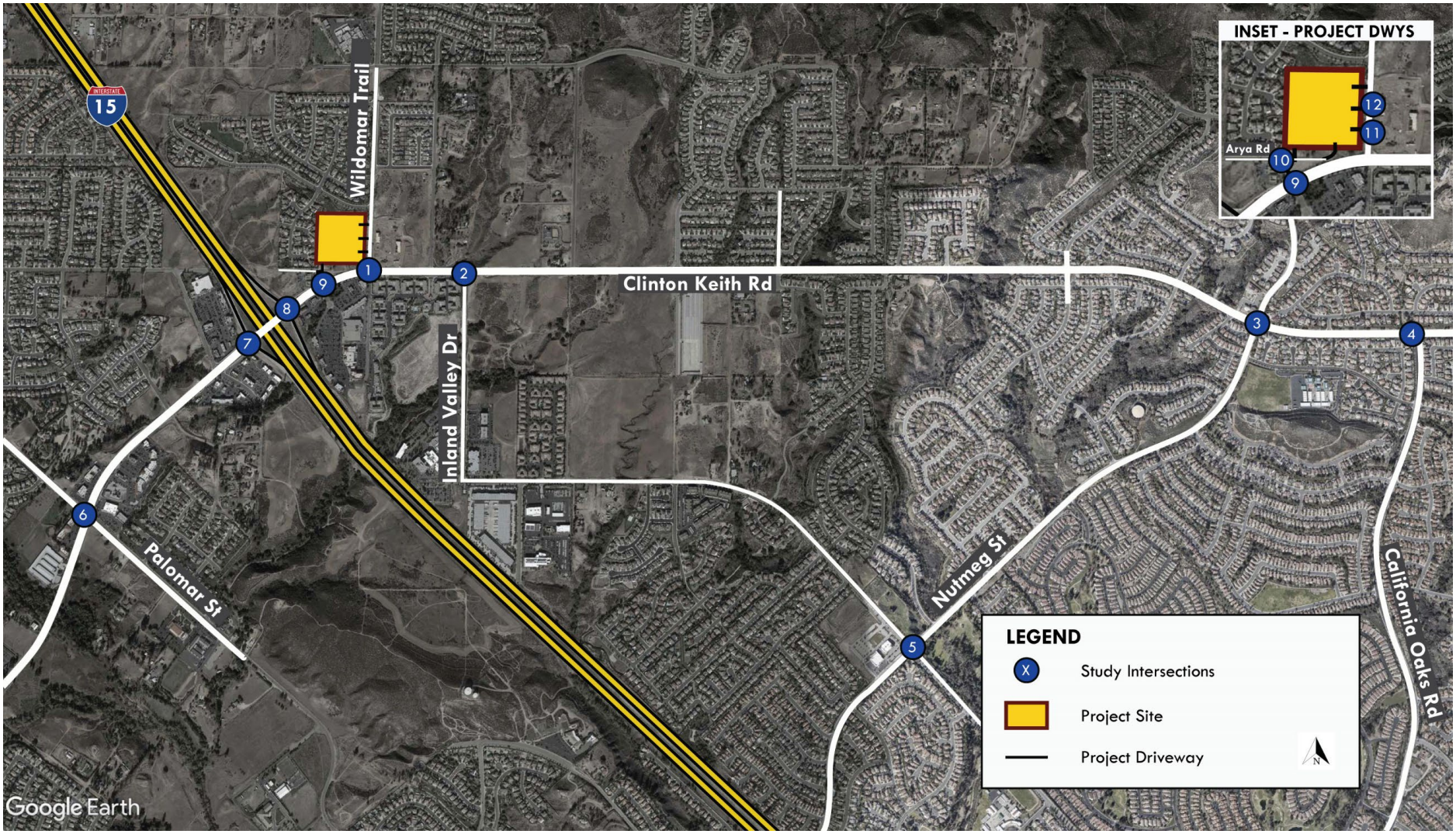
1. Wildomar Trl/Clinton Keith Rd (Signal)
2. Inland Valley Dr/Clinton Keith Rd (Signal)
3. Nutmeg St/Clinton Keith Rd (Signal)
4. California Oaks Rd/Clinton Keith Rd (Signal)
5. Nutmeg St/Jackson Ave (Signal)
6. Palomar Rd/Clinton Keith Rd (Signal)
7. I-15 SB Ramps/Clinton Keith Rd (Signal)
8. I-15 NB Ramps/Clinton Keith Rd (Signal)
9. Arya Rd/Clinton Keith Rd (Signal)
10. Arya Rd/Catt Rd (AWSC)
11. Wildomar Trl/Project Dwy 3 (TWSC)
12. Wildomar Trl/Proj Dwy 4 (TWSC)

The locations of the study area intersections are shown on *Figure* 3. Study area intersections were evaluated during the AM and PM peak hours, which are defined as the hour with the highest traffic volumes during the 7 AM to 9 AM and 4 PM to 6 PM peak commute periods. AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Year Traffic Conditions
- Project Completion (Existing plus Ambient Growth plus Project) Conditions
- Project Completion (Existing plus Ambient Growth plus Project) Conditions with Improvements
- Cumulative (Existing plus Ambient Growth plus Project plus Cumulative Projects) Conditions
- Cumulative (Existing plus Ambient Growth plus Project plus Cumulative Projects) Conditions with Improvements

EPD collected counts for the study intersections on Tuesday, December 15th, 2021. As per the County of Riverside Transportation Analysis Guidelines, forecast traffic volumes for the Project Completion (2024) baseline conditions were developed by adding the project trips to Existing conditions and adding an ambient growth rate of 2 percent per year to existing traffic volumes. Cumulative (2024) traffic volumes were developed by adding the project trips to Existing conditions, adding an ambient growth rate of 2 percent per year to existing traffic volumes and adding traffic generated by other approved and pending development projects. All traffic count data are provided in *Appendix B*.

Figure 3: Project Study Area



2.4 Methodology

Intersection operations are evaluated using Level of Service (LOS), which is a measure of the delay experienced by drivers on a roadway facility. LOS A indicates free-flow traffic conditions and is generally the best operating conditions. LOS F is an extremely congested condition and is the worst operating condition from the driver's perspective. In this report, LOS at signalized and unsignalized intersections is calculated using the Highway Capacity Manual (HCM), 6th Edition methodology.

LOS at signalized intersections is defined in terms of the weighted average control delay for the intersection as a whole. Control delay is a measure of the increase in travel time that is experienced due to traffic signal control and is expressed in terms of average control delay per vehicle (in seconds). Control delay is determined based on the intersection geometry and volume, signal cycle length, phasing and coordination along the arterial corridor. *Table 2* shows the relationship between control delay and LOS.

Table 1: Relationship between Control Delay and LOS at a Signalized Intersection

LOS	Delay (Seconds per Vehicle)
A	≤ 10
B	>10 – 20
C	>20 – 35
D	>35 – 55
E	>55 – 80
F	>80

Unsignalized intersections are categorized as either all-way stop control (AWSC) or two-way stop control (TWSC). LOS at AWSC intersections is determined by the weighted average control delay of the overall intersection. The HCM TWSC intersection methodology calculates LOS based on the delay experienced by drivers on the minor (stop-controlled) approaches to the intersection. For TWSC intersections, LOS is determined for each minor-street movement, as well as the major-street left-turns. The relationship between delay and LOS at Unsignalized intersections is shown in *Table 3*.

Table 2: Relationship between Delay and LOS an Unsignalized Intersection

LOS	Delay (seconds)
A	0-10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

2.5 Significance Criteria

City of Wildomar

The *City of Wildomar General Plan Mobility Element* identifies LOS D as the threshold for all Mobility Element roadways and intersections, with the exception of Clinton Keith Road, between Hidden Springs Road and I-15 Northbound Ramps, where LOS E would be acceptable due to right-of-way constraints, unless otherwise approved by the City Engineer.

City of Murrieta

The *City of Murrieta General Plan Circulation Element* identifies LOS D as the threshold for all intersections during peak hours, and LOS E or better at freeway interchanges during peak hours.

California Department of Transportation (Caltrans)

The Caltrans *Guide for the Preparation of Traffic Impact Studies* (December 2002) required that State Highway facilities be analyzed when project traffic was added to the facility. As per the guidelines, LOS D is the required standard at intersections under the jurisdiction of Caltrans. In response to implementation of SB743, Caltrans released the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide*, May 20, 2020. According to the latest guide, "With this guidance, the Department will transition away from requesting LOS or other vehicle operations analyses of land use projects."

3 BASELINE CONDITIONS

This section discusses the baseline (without project) conditions. Baseline conditions are those conditions that exist within the study area in the existing condition.

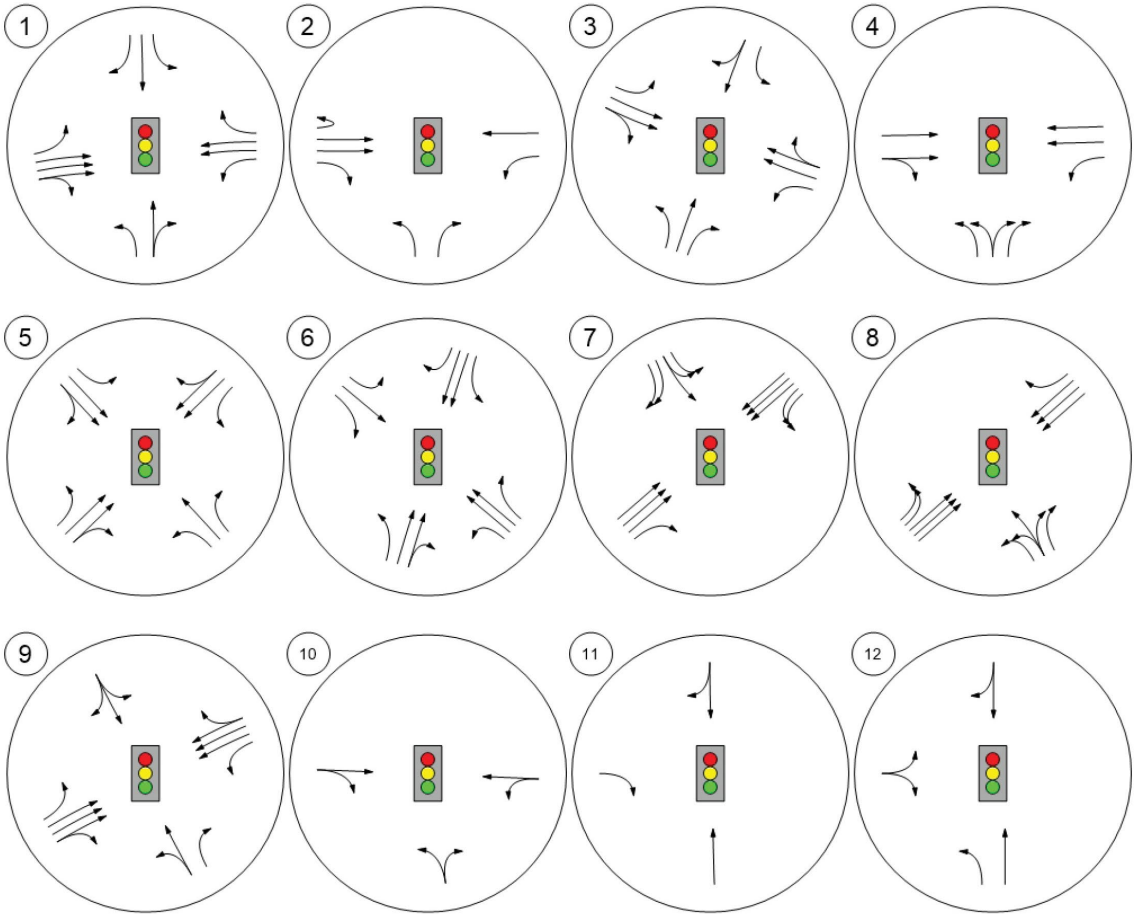
3.1 Existing Transportation System and Access

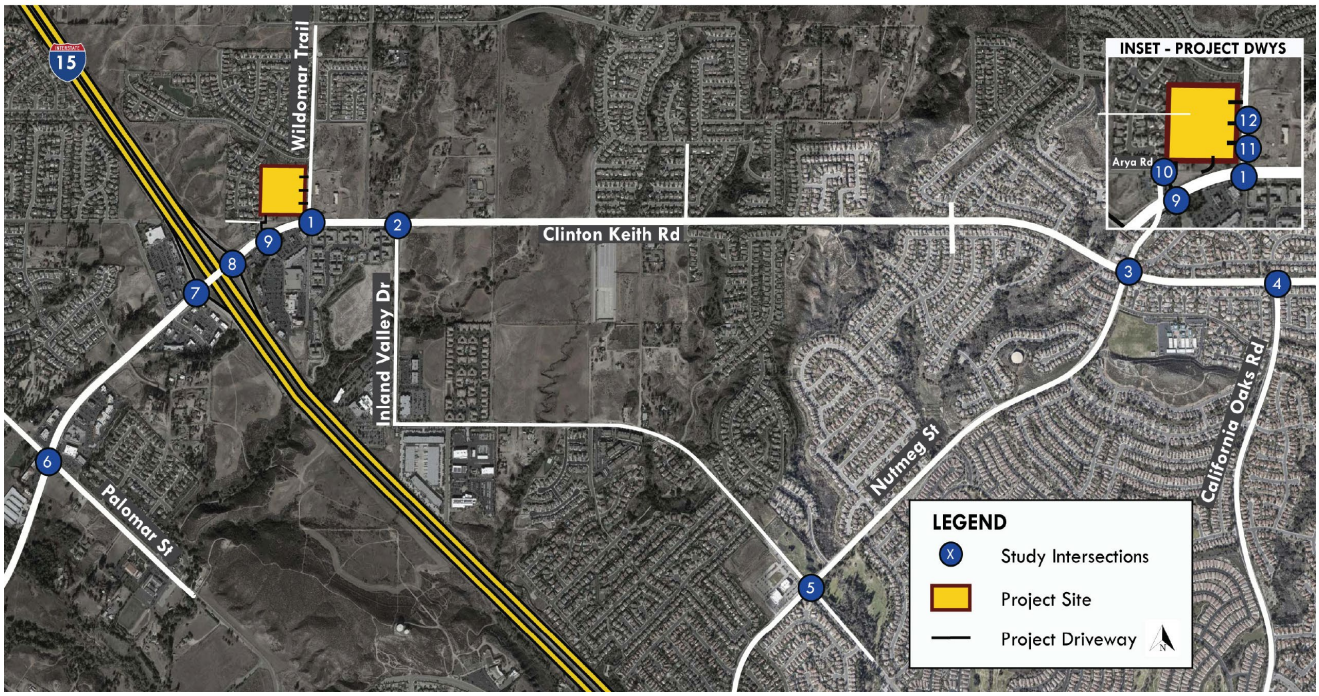
The proposed mixed-use development is located at the northwest corner of the intersection of Wildomar Trl/Clinton Keith Rd in the City of Wildomar. Roadways providing access to the project site include I-15, Clinton Keith Rd, Wildomar Trl, Inland Valley Dr, Palomar St, Nutmeg St and California Oaks Rd. Nutmeg St and California Oaks Rd fall within the jurisdiction of the City of Murrieta. The characteristics of each roadway are discussed below:

- Regional access is provided to the project via interstate highway I-15 which provides connections to San Bernardino County, Los Angeles County and San Diego County.
- Clinton Keith Rd is designated as a six-lane primary arterial with raised median as per the City of Wildomar General Plan. This road is a five-lane undivided arterial in the immediate vicinity of the project. Bike lanes are provided on both sides of the road beginning at approximately 335 feet east of the intersection of Wildomar Trl/Clinton Keith Rd and extend west of the intersection till the southwest boundary of the City of Wildomar. The posted speed limit on this road is 35 miles per hour.
- Wildomar Trl is classified as a two-lane collector as per the City of Wildomar General Plan. Wildomar Trl is a two-lane undivided road in the vicinity of the project. No bike-lanes are provided on this road. The posted speed limit is 40 mph in the vicinity of the project site.
- Inland Valley Dr is classified as a four-lane minor arterial as per the City of Wildomar General Plan. Inland Valley Dr is a two-lane undivided arterial in the vicinity of the project. The posted speed limit on this road is 45 miles per hour. No bike lanes or on-street parking is provided on this road in the vicinity of the project.
- Palomar St is classified as a four-lane major arterial with raised/striped/center left-turn lane median as per the City of Wildomar General Plan. Palomar is a three-lane undivided arterial north of the intersection of Palomar St/Clinton Keith Rd, and a two-lane undivided arterial south of the intersection. Posted speed limit on this road is 45 miles per hour.
- Nutmeg St is classified as a secondary as per the City of Murrieta General Plan. Nutmeg St is a four-lane undivided street with a posted speed limit of 30 miles per hour. Bike lanes are provided on both sides of this street.
- California Oaks Rd is classified as a major as per the City of Murrieta General Plan. California Oaks Rd is a four-lane undivided street with a posted speed limit of 45 miles per hour. Bike lanes are provided on both sides of this street.

Catt Rd will be extended east of Arya Rd to function as project driveway for gated entry/exit into the residential part of the development and extend east to provide entry/exit from the commercial part of the development located south of the project site. Other project driveways providing access to the commercial development from the east open onto Wildomar Trl. The project also provides gated access to the residential development via project driveway located on Wildomar Trl. The existing traffic control and intersection geometrics at study area intersections are shown in *Figure 4*.

Figure 4: Existing Lane Geometries and Traffic Control





3.2 Existing Traffic Volumes and Intersection Operations

Existing AM and PM peak hour traffic volumes at the study area intersections are shown in *Figure 5* and *Figure 6* respectively. The existing Levels of Service at the study area are show in *Table 3*. All LOS calculations are provided in *Appendix C*. As shown in *Table 3*, all intersections operate at a satisfactory LOS during the existing peak hours except for the intersection of Arya Rd/Clinton Keith Rd which operates at LOS E in the PM peak hour.

Table 3: Existing AM and PM Peak Hour Level of Service

Intersection	Jurisdiction	Control Type	Existing			
			AM Peak		PM Peak	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Wildomar Trl/Clinton Keith Rd	Wildomar	Signal	23.6	C	24.0	C
2. Inland Valley Dr/Clinton Keith Rd	Wildomar	Signal	25.5	C	32.2	C
3. Nutmeg St/Clinton Keith Rd	Murrieta	Signal	23.2	C	24.6	C
4. California Oaks Rd/Clinton Keith Rd	Murrieta	Signal	30.1	C	31.6	C
5. Nutmeg St/Jackson Ave	Murrieta	Signal	31.2	C	26.3	C
6. Palomar Rd/Clinton Keith Rd	Wildomar	Signal	46.2	D	37.0	D
7. I-15 SB Ramps/Clinton Keith Rd	Caltrans	Signal	18.8	B	21.3	C
8. I-15 NB Ramps/Clinton Keith Rd	Caltrans	Signal	16.1	B	19.1	B
9. Arya Rd/Clinton Keith Rd	Wildomar	Signal	37.7	D	67.3	E
10. Arya Rd/Catt Rd	Wildomar	AWSC	-	-	-	-
11. Wildomar Trl/Proj Dwy 3	Wildomar	TWSC	-	-	-	-
12. Wildomar Trl/Proj Dwy 4	Wildomar	TWSC	-	-	-	-

=Unsatisfactory Intersection Operation AWSC = All-Way Stop Controlled TWSC = Two-Way Stop Controlled

[1] Delay in Seconds

[2] Level of Service

Figure 5: Existing AM Peak Hour Traffic Volumes

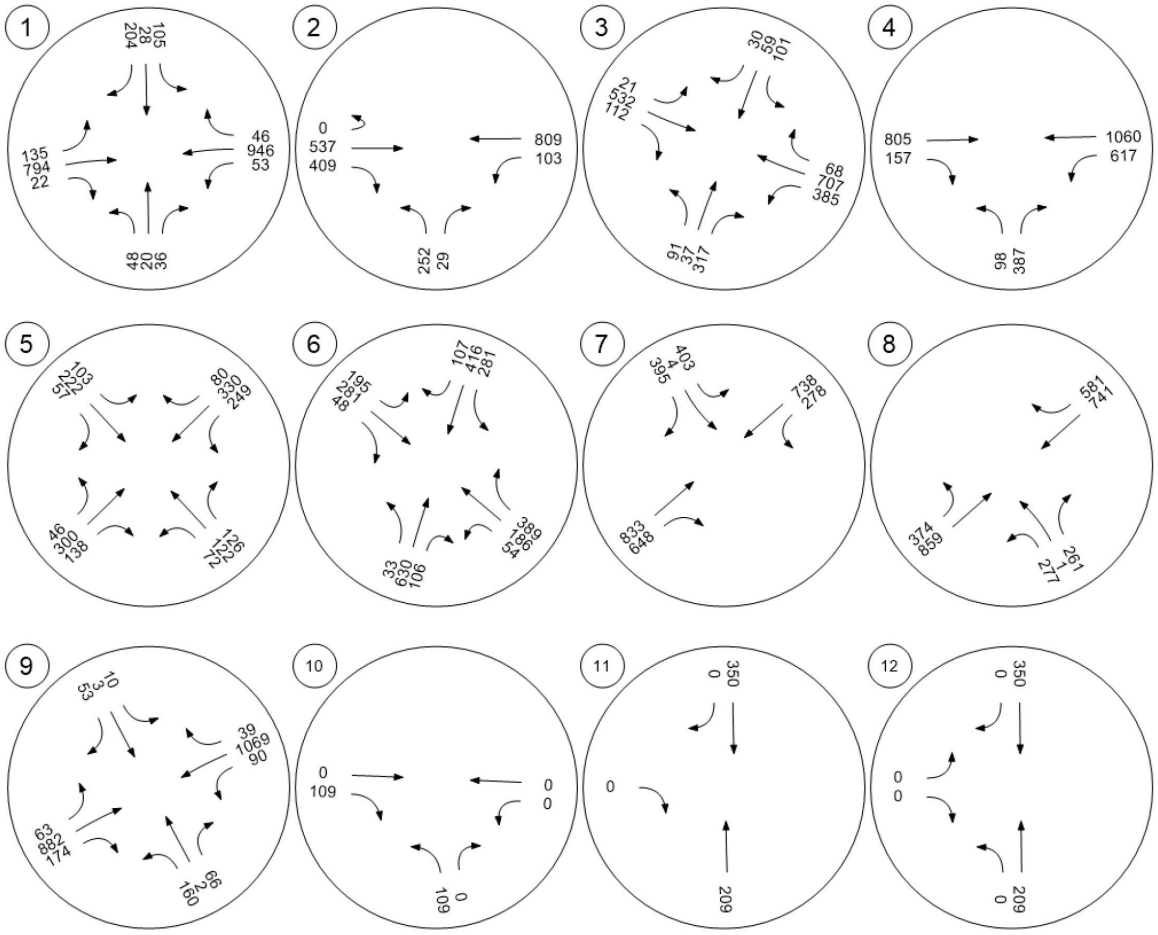
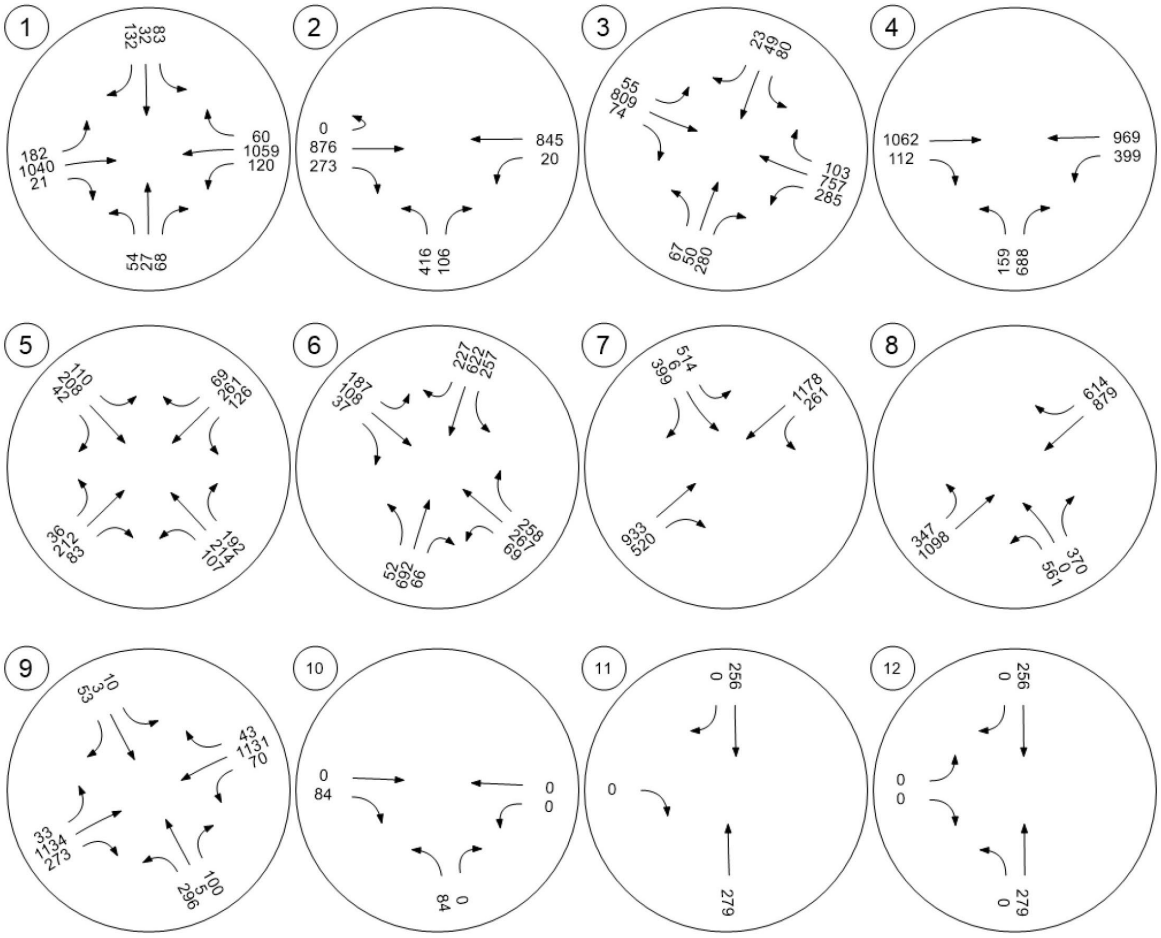




Figure 6: Existing PM Peak Hour Traffic Volumes





4 PROPOSED PROJECT

4.1 Project Trip Generation

Vehicle trips were generated for the proposed mixed-use development using trip rates from the Institute of Transportation Engineers (ITE) Trip Generation (11th Edition, 2021). The project trip generation is shown in *Table 4*. The proposed mixed-use development is estimated to generate approximately 4551 daily trips, 282 AM peak hour trips, and 404 PM peak hour trips. As mentioned in *Section 2.1*, the project description for the proposed development had been updated post approval of the TIA scope of work such that the total area of the shops increased by 1,087 SF and the area of the drive-through restaurant increased by 150 SF. The trip generation in this TIA utilizes the most updated project description for the purpose of analysis.

4.2 Project Trips

Project trips were distributed to the study area intersections based on the location of the project and logical routes of travel to and from the site. Project trips were assigned to the study area intersections by multiplying the project trip generation by the trip distribution percent at each location. The retail trip distribution for the proposed mixed-use development is shown in *Figure 7*. The residential trip distribution for the proposed mixed-use development is shown in *Figure 8*. The project retail trip assignment for AM and PM peak hours is shown in *Figure 9* and *Figure 10* respectively. The project residential trip assignment in for AM and PM peak hours is shown in *Figure 11* and *Figure 12* respectively.

Table 4: Project Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use		**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Proposed Project Trip Rate									
Supermarket[1]		TSF	93.84	1.69	1.17	2.86	4.48	4.48	8.95
Strip Retail Plaza[2]		TSF	87.39	2.17	1.45	3.62	4.74	4.74	9.47
Fast-Food Restaurant With Drive-Through Window[3]		TSF	467.48	22.75	21.86	44.61	17.18	15.85	33.03
Coffee/Donut Shop with Drive-Through Window[4]		TSF	533.57	43.80	42.08	85.88	19.50	19.50	38.99
High-Turnover (Sit-Down) Restaurant[5]		TSF	107.20	5.26	4.31	9.57	5.52	3.53	9.05
Multifamily Housing (Mid-Rise)[6]		DU	4.54	0.09	0.28	0.37	0.15	0.24	0.39
Proposed Project Trip Generation									
Supermarket[1]	23.104	TSF	2168	39	27	66	103	103	206
Shops[2]	5.087	TSF	445	11	7	18	24	25	48
Fast-Food Restaurant With Drive-Through Window[3]	2.750	TSF	1286	63	60	123	47	44	91
Coffee/Donut Shop with Drive-Through Window[4]	1.133	TSF	605	50	48	98	22	22	44
High-Turnover (Sit-Down) Restaurant[5]	3.348	TSF	359	18	14	32	18	12	30
Multifamily Housing (Mid-Rise)[6]	150	DU	681	13	43	56	23	36	59
Total Trip Generation			5544	194	199	393	237	242	478
Pass-By Trips									
Fast-Food and Coffee Shop (50% AM, 55% PM) [7]			*-993*	*-57*	*-54*	*-111*	*-38*	*-36*	*-74*
Total Net Trip Generation			**4551**	**137**	**145**	**282**	**199**	**206**	**404**

TSF = Thousand Square Feet

[1] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 850 - Supermarket .

[2] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 822 - Strip Retail Plaza. Fitted curve equation T = 42.20 (X) + 229.68 was used for Daily trip rate. Fitted curve equation Ln (T) = 0.66 Ln (X) + 1.84 was used for AM peak hour trip rate. Fitted curve equation Ln (T) = 0.71 Ln (X) + 2.72 was used for PM peak hour trip rate.

[3] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window.

[4] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 937 - Coffee/Donut Shop with Drive-Through Window.

[5] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 932 - High-Turnover (Sit-Down) Restaurant.

[6] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2021* . Land Use Code 221 - Multifamily Housing (Mid-Rise).

[7] Pass-By Trip Percentage from the Institute of Transportation Engineers, Web-based App: Pass-By Data and Rate Tables/2021 Pass-By Tables for ITE Trip Gen Appenidces.
The same Pass-By Trip Percentage was applied to Land use code 937 - Coffee/Donut Shop with Drive-Through Window as no pass-by trip percentage is provided for this land use by ITE. The daily pass-by reduction of 52.5% was assumed as an average of the AM and PM rates.

Figure 7: Project Retail Trip Distribution

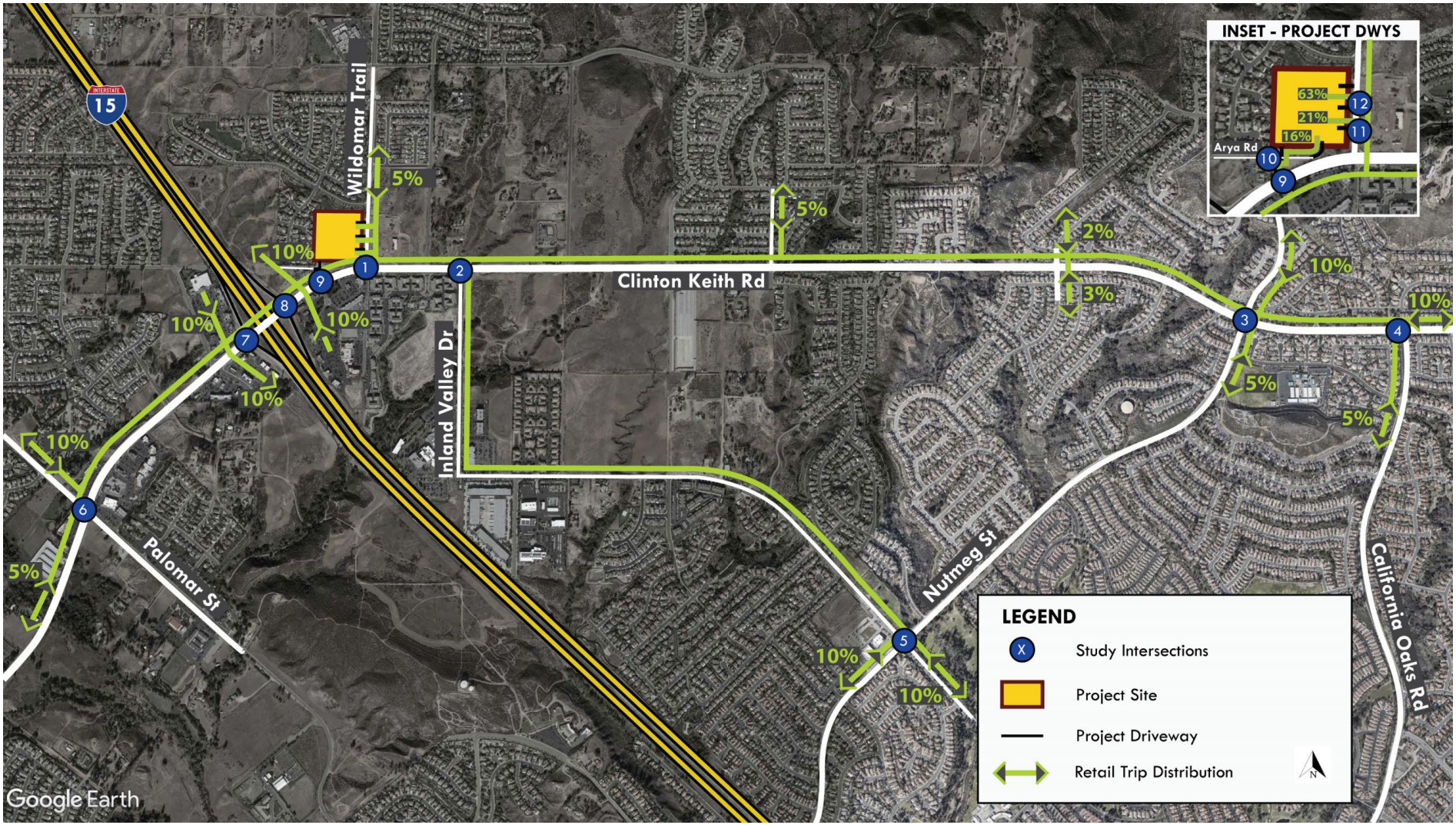


Figure 8: Project Residential Trip Distribution

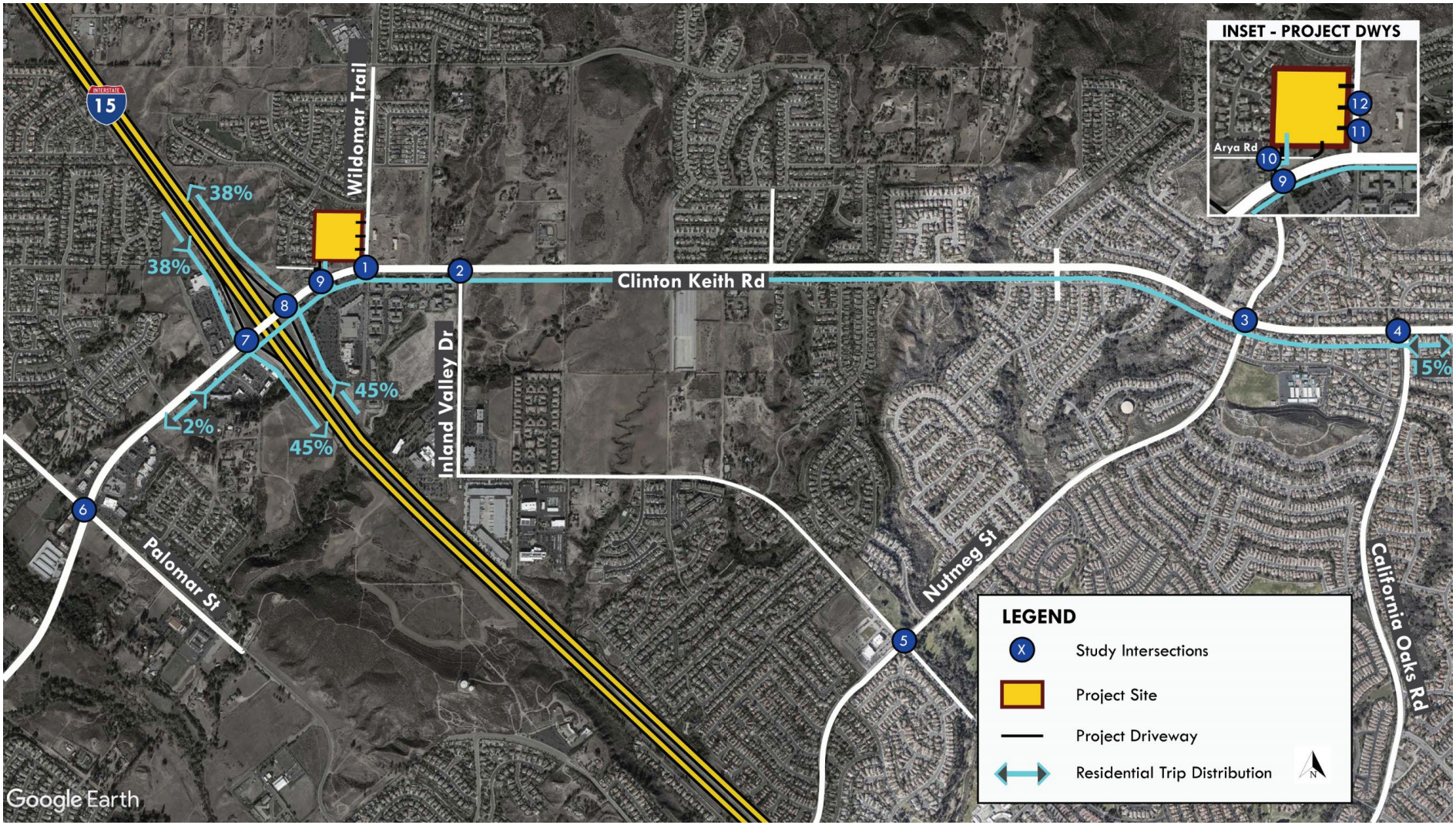


Figure 9: Project Retail AM Peak Hour Trip Assignment

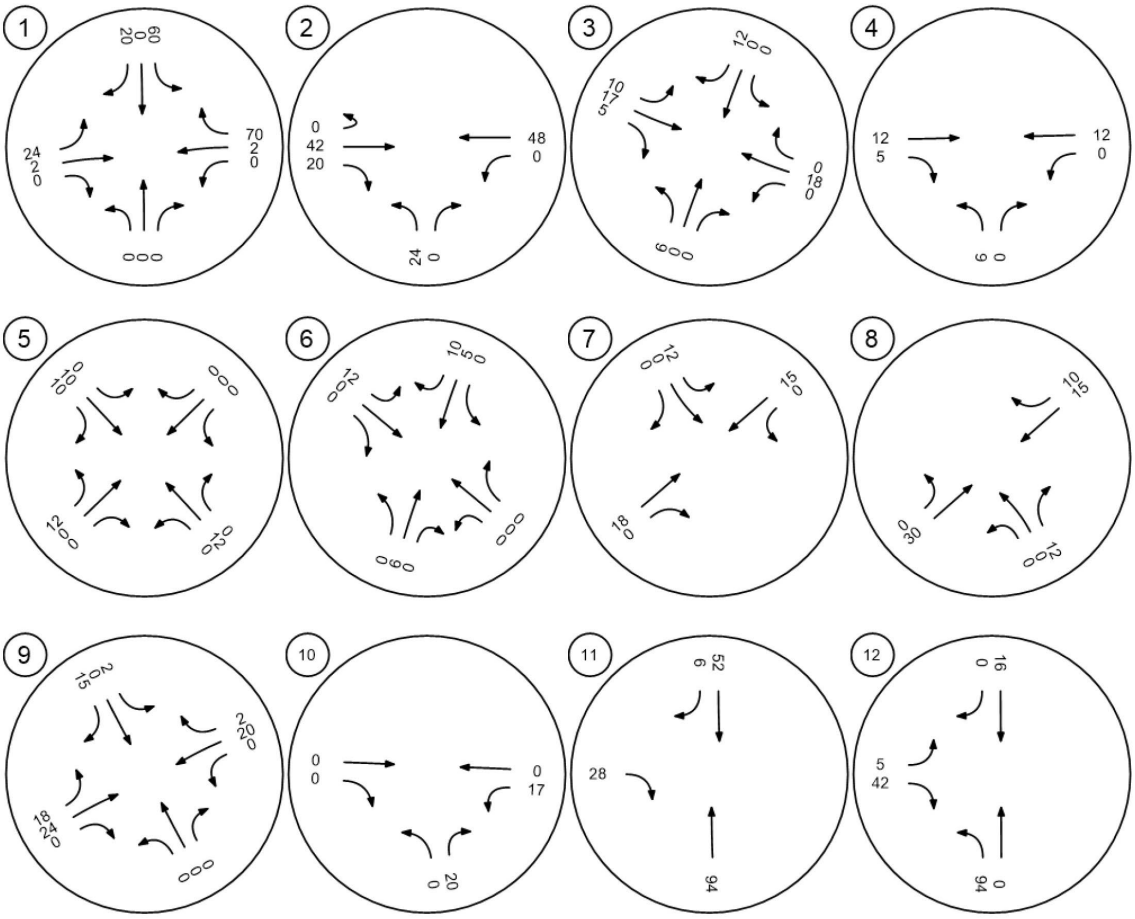




Figure 10: Project Retail PM Peak Hour Trip Assignment

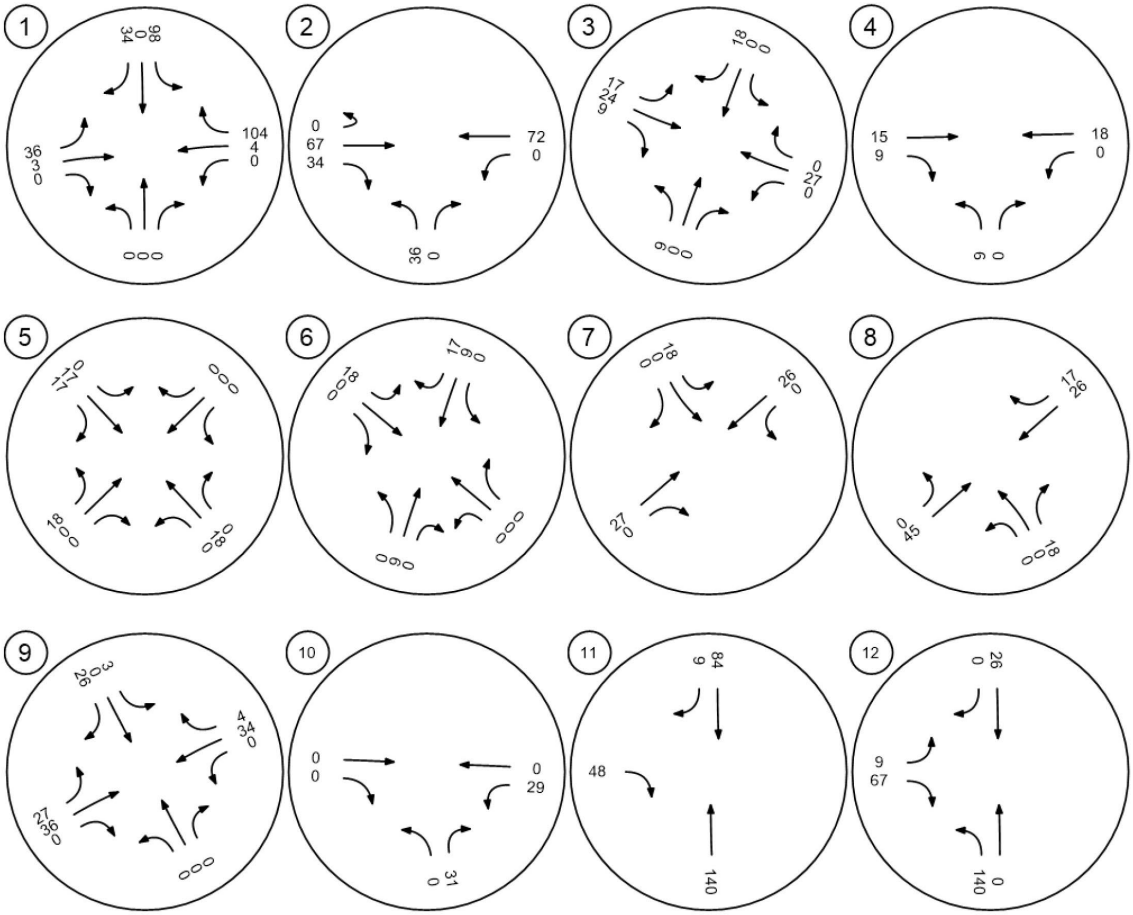




Figure 11: Project Residential AM Peak Hour Trip Assignment

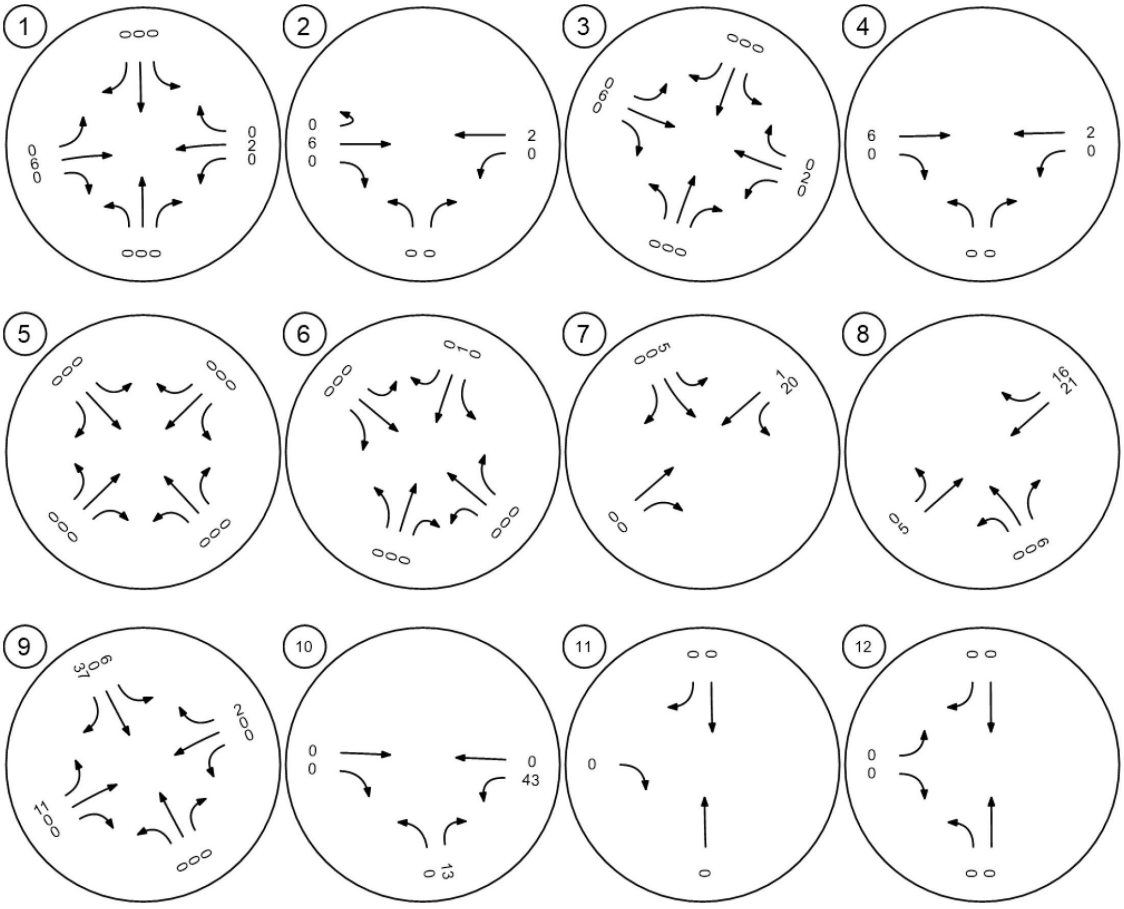
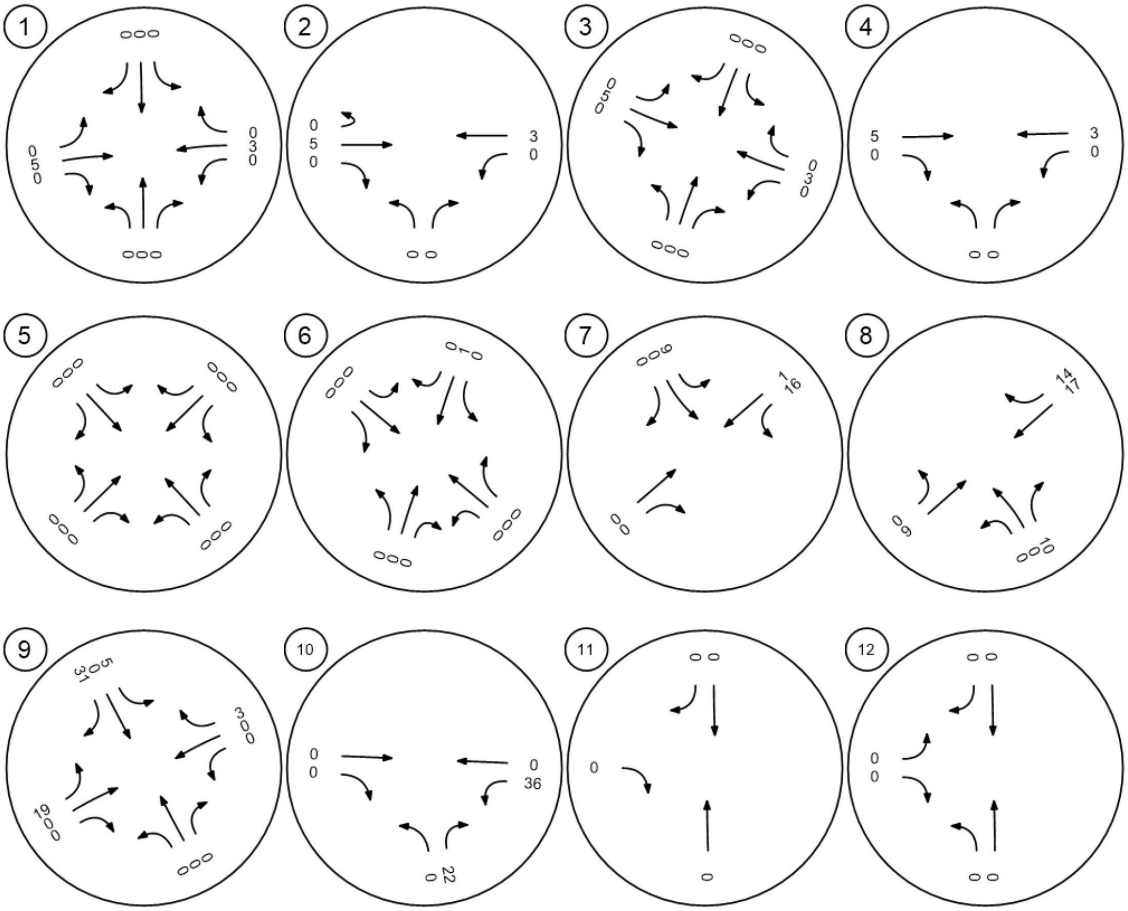




Figure 12: Project Residential PM Peak Hour Trip Assignment





5 PROJECT IMPACTS

5.1 Project Completion (2024) Conditions

5.1.1 Project Completion Traffic Volumes and Intersection Operations

Project Completion (2024) conditions volumes were developed by adding the project trips to Existing conditions and adding an ambient growth rate of 2 percent per year to existing traffic volumes. The AM peak hour and PM peak hour traffic volumes for this scenario are shown in *Figure 13* and *Figure 14* respectively. *Table 5* shows the Project Completion AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in *Appendix* C. As shown in *Table 5*, all intersections would operate at a satisfactory LOS during both AM and PM peak hours with the exception of Arya Rd/Clinton Keith Rd which would operate at LOS F during the PM peak hour.

Table 5: Project Completion AM and PM Peak Hour Level of Service

Intersection	Jurisdiction	Control Type	Project Completion			
			AM Peak		PM Peak	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Wildomar Trl/Clinton Keith Rd	Wildomar	Signal	27.4	C	30.5	C
2. Inland Valley Dr/Clinton Keith Rd	Wildomar	Signal	28.6	C	39.0	D
3. Nutmeg St/Clinton Keith Rd	Murrieta	Signal	24.8	C	25.8	C
4. California Oaks Rd/Clinton Keith Rd	Murrieta	Signal	33.5	C	35.3	D
5. Nutmeg St/Jackson Ave	Murrieta	Signal	32.5	C	26.6	C
6. Palomar Rd/Clinton Keith Rd	Wildomar	Signal	50.5	D	39.3	D
7. I-15 SB Ramps/Clinton Keith Rd	Caltrans	Signal	19.0	B	21.3	C
8. I-15 NB Ramps/Clinton Keith Rd	Caltrans	Signal	16.4	B	19.6	B
9. Arya Rd/Clinton Keith Rd	Wildomar	Signal	36.2	D	84.1	F
10. Arya Rd/Catt Rd	Wildomar	AWSC	7.9	A	7.7	A
11. Wildomar Trl/Proj Dwy 3	Wildomar	TWSC	11.1	B	10.6	B
12. Wildomar Trl/Proj Dwy 4	Wildomar	TWSC	17.2	C	18.5	C

=Unsatisfactory Intersection Operation AWSC = All-Way Stop Controlled

[1] Delay in Seconds

[2] Level of Service

Figure 13: Project Completion AM Peak Hour Volumes

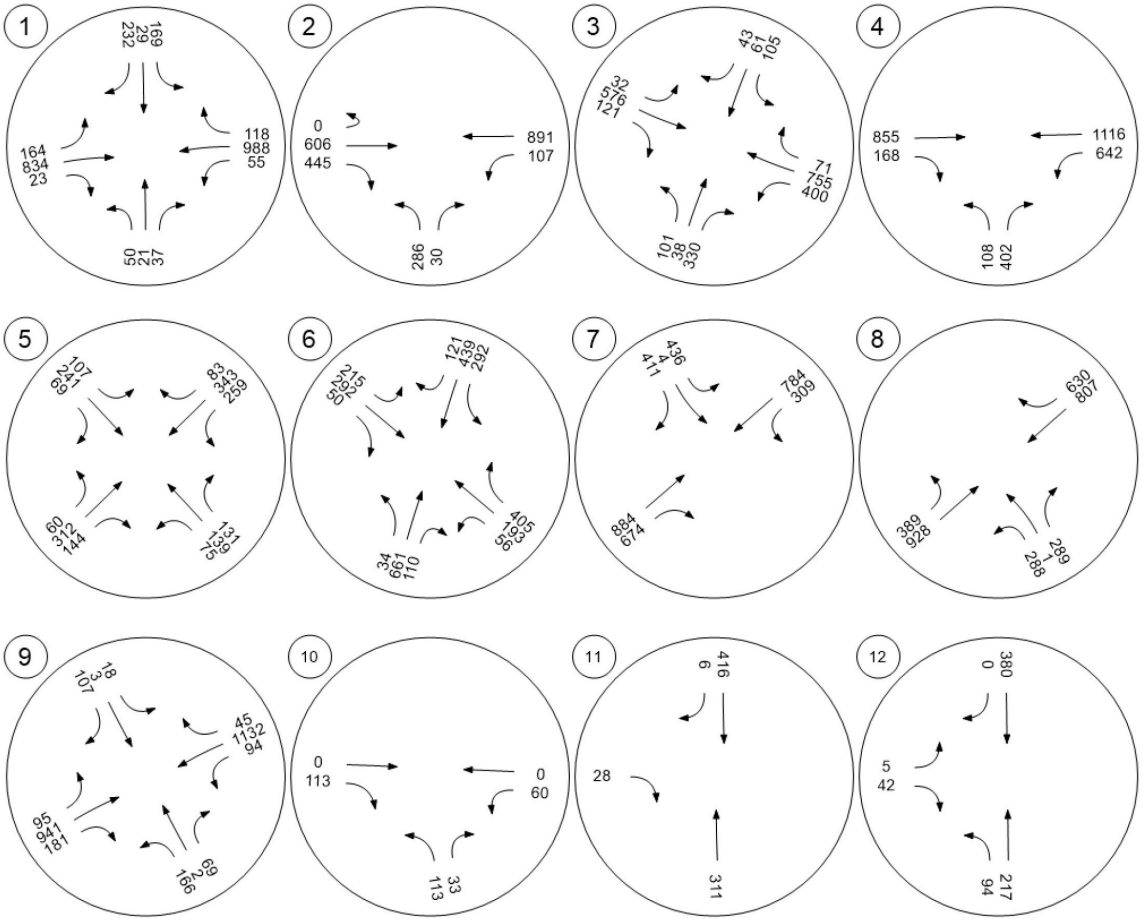
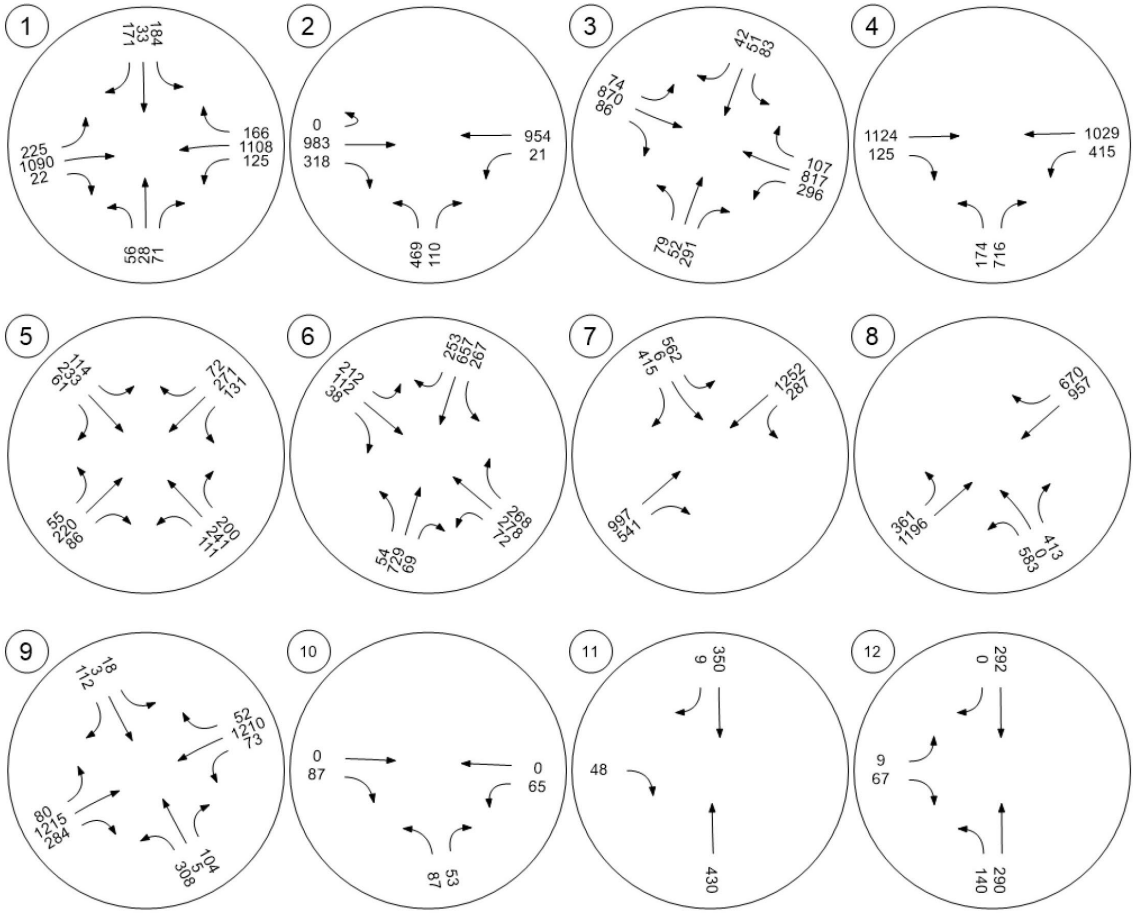




Figure 14: Project Completion PM Peak Hour Volumes





5.2 Cumulative (2024) Conditions

5.2.1 Cumulative Projects

The approved and pending development projects utilized in this scenario were referred from the *Cumulative Development Project Spreadsheet document* provided to EPD by the City of Wildomar. The location of the approved and pending cumulative projects is shown in *Figure 15*. The map shows the location of residential and commercial projects. Mixed-use developments are illustrated as separate commercial and residential projects with the same project number. The trip generation for the cumulative projects is shown in *Table 6*. The figures were numbered in the location map and in the trip generation table as per the project numbers assigned in the *Cumulative Development Project Spreadsheet* attached in *Appendix D*. In addition to the cumulative projects obtained from the document provided by the City, EPD added Mt. San Jacinto Community College District campus obtained from the Inland Valley Medical Center Project TIA prepared by Linscott, Law and Greenspan, Engineers (LLG). The trips from each cumulative project were distributed to the study area intersections based on the location of the cumulative project and logical routes of travel to and from their respective sites. The AM and PM peak hour traffic volumes generated by the cumulative projects is shown in *Figure 16* and *Figure 17*.

Figure 15: Cumulative Projects Location



Table 6: Cumulative Projects Trip Generation

Land Use		Units	Daily	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Proposed Project Trip Rate									
Office[1]		TSF	10.84	1.34	0.18	1.52	0.24	1.20	1.44
Single Family[2]		DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
Strip Retail Plaza[3]		TSF	54.45	1.42	0.94	2.36	3.30	3.30	6.59
Shopping Plaza[4]		TSF	94.49	2.19	1.34	3.53	4.33	4.70	9.03
Marijuana Dispensary[5]		TSF	211.12	5.48	5.06	10.54	9.46	9.46	18.92
Multifamily Housing (Mid-Rise) Not Near Transit[6]		DU	4.45	0.09	0.28	0.37	0.24	0.15	0.39
Assisted Living[7]		Beds	2.60	0.11	0.07	0.18	0.09	0.15	0.24
Mini-Warehouse[8]		TSF	1.45	0.05	0.04	0.09	0.07	0.08	0.15
Mini-Warehouse[8]		HSU	17.96	0.62	0.59	1.21	0.84	0.84	1.68
Hospital[9]		Beds	22.32	1.29	0.50	1.79	0.56	1.13	1.69
Medical-Dental Office Building[10]		TSF	36.00	2.45	0.65	3.10	1.38	2.55	3.93
Cumulative Projects Trip Generation									
1. Mt. San Jacinto Community College District Campus[11]			3444	280	56	336	224	112	336
44. Wildomar Crossings Retial	27	TSF	1470	38	25	64	89	89	178
55. Clinton Keith Marketplace Retail Center	66.690	TSF	6302	146	89	235	289	313	602
Clinton Keith Market Place Center Cannabis Store	4.800	TSF	1013	26	24	51	45	45	91
28. Wildomar Square Retail Center	46.600	TSF	4403	102	63	164	202	219	421
53. Inland Valley Medical Center Master Pal Redeveop	202	Beds	4509	260	101	362	113	229	341
13. Westpark Promenade Mixed use Retail	118.354	TSF	11183	259	159	418	513	556	1069
15. Grove Park Mixed Use Project Retail	40	TSF	2178	57	38	94	132	132	264
5. Rancon Medical Office and Retial Center	96.420	TSF	*3471*	*236*	*63*	*299*	*133*	*246*	*379*
17. Strata Mixed Use	86.000	Beds	224	9	6	15	8	13	21
45. Life Storage Mini-Warehouse	60.800	TSF	*88*	*3*	*2*	*5*	*4*	*5*	*9*
43. Smith Ranch Self-Storage	150	TSF	218	8	6	14	11	12	23
42. Milestone RV/Boat Storage + 64 Units Mini-Wareh	2.46	HSU	*44*	*2*	*1*	*3*	*2*	*2*	*4*
13. Westpark Promenade 191 MFR units	191	DU	*850*	*16*	*54*	*71*	*45*	*29*	*74*
39. Nova Residential Homes	77	DU	726	14	40	54	46	27	72
15. Grove Park Residential	162	DU	721	14	46	60	39	25	63
48. Oak Springs Ranch	288	DU	1282	25	82	107	69	44	112
17. Strata Housing	138	DU	614	12	39	51	33	21	54
14. Villa Sienna Apartment	170	DU	*757*	14	48	63	40	26	66

TSF = Thousand Square Feet

DU = Dwelling Units

HSU = Hundred Storage Units

[1] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 710- General Office Building.

[2] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 210- Single Family Residential Detached.

[3] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 822 - Strip Retail Plaza (<40k).

[4] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 821 - Shopping Plaza (40-150k).

[5] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 882 - Marijuana Dispensary

[6] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 221 - Multifamily Housing (Mid-Rise) Not Close to Transit.

[7] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 254 - Assisted Living

[8] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 151 - Mini Warehouse

[9] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 610 - Hospital

[10] Trip rates from the Institute of Transportation Engineers, *Trip Generation, 11th Edition, 2021*. Land Use Code 720 - Medical-Dental Office Building

[11] Trip rates from Inland Valley Medical Center Project TIA prepared by Linscott, Law and Greenspan, Engineers (LLG).

Figure 16: Cumulative Projects AM Peak Hour Traffic Volumes

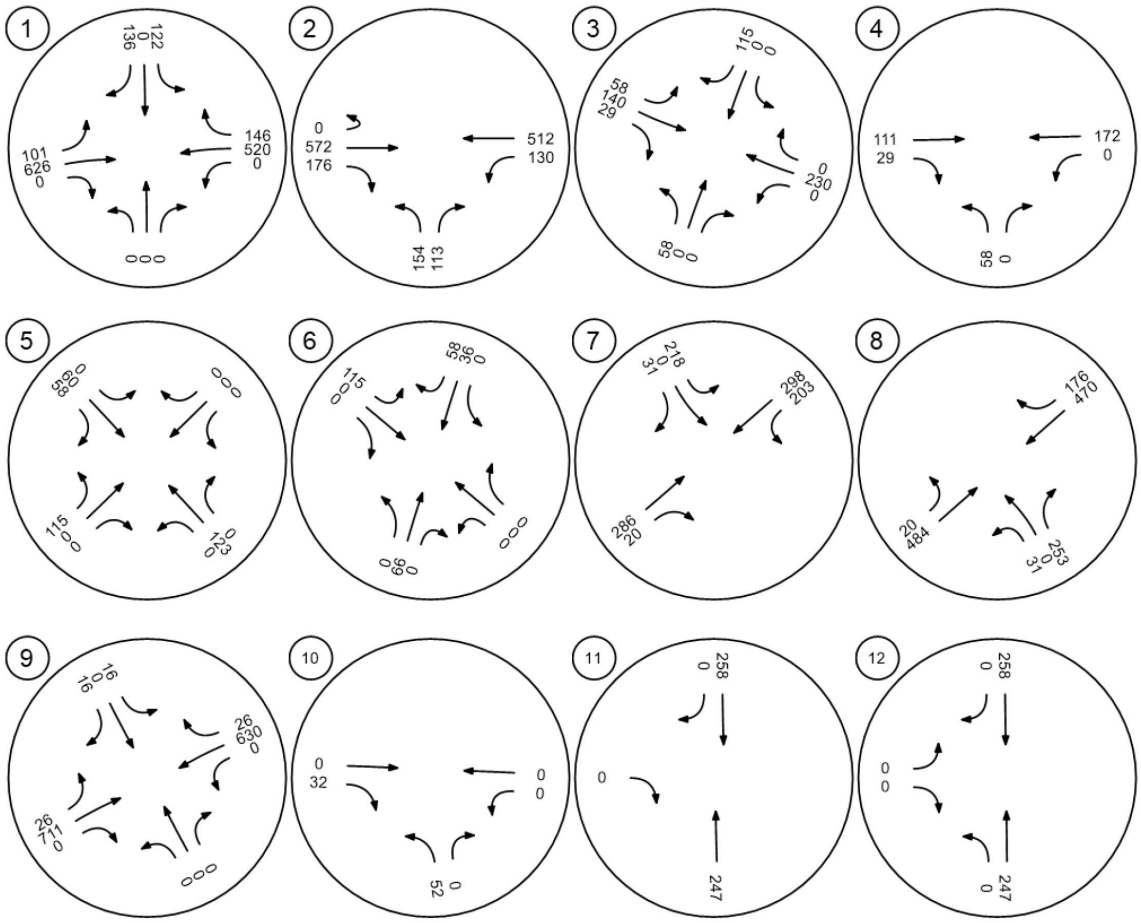
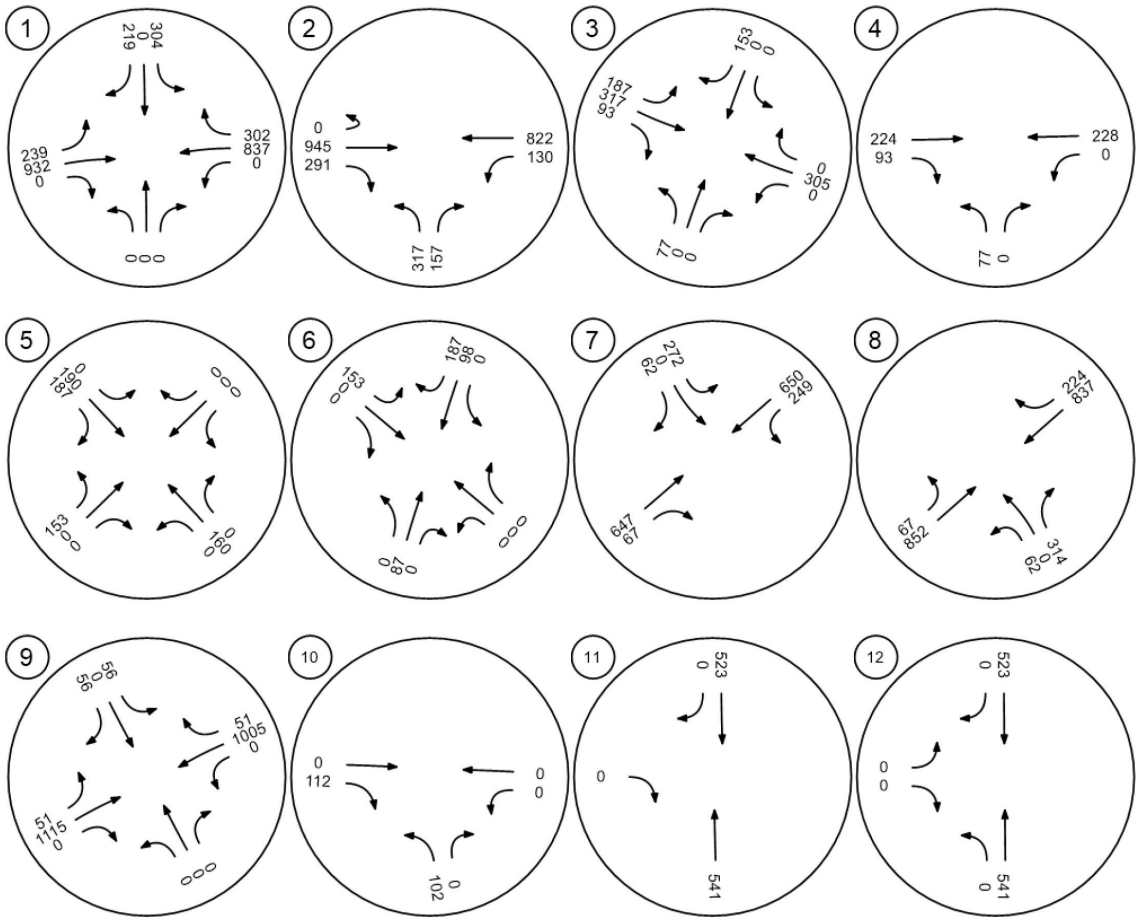




Figure 17: Cumulative Projects PM Peak Hour Traffic Volumes





5.2.2 Cumulative Conditions Traffic Volumes and Intersection Operations

Cumulative (2024) conditions volumes were developed by adding the project trips to Existing conditions, adding an ambient growth rate of 2 percent per year to existing traffic volumes and adding traffic generated by other approved and pending development projects. The AM peak hour and PM peak hour traffic volumes for this scenario are shown in *Figure 18* and *Figure 19* respectively. Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. *Table 7* shows the Cumulative Conditions AM and PM peak hour levels of service at study intersections. All LOS calculations are provided in *Appendix C*. As shown in *Table 7*, all intersections would operate at a satisfactory LOS during both AM and PM peak hours except for the following intersections:

- #1- Wildomar Trl/Clinton Keith Rd
- #2- Inland Valley Dr/Clinton Keith Rd
- #3- Palomar Rd/Clinton Keith Rd
- #9- Arya Rd/Clinton Keith Rd
- #12- Wildomar Trl/Proj Dwy 4.

Improvements for each deficient intersection are recommended in *Section 7.1*.

Table 7: Cumulative AM and PM Peak Hour Level of Service

Intersection	Jurisdiction	Control Type	Cumulative			
			AM Peak		PM Peak	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Wildomar Trl/Clinton Keith Rd	Wildomar	Signal	57.0	E	140.3	F
2. Inland Valley Dr/Clinton Keith Rd	Wildomar	Signal	96.9	F	210.1	F
3. Nutmeg St/Clinton Keith Rd	Murrieta	Signal	32.8	C	41.0	D
4. California Oaks Rd/Clinton Keith Rd	Murrieta	Signal	39.0	D	50.7	D
5. Nutmeg St/Jackson Ave	Murrieta	Signal	32.9	C	27.4	C
6. Palomar Rd/Clinton Keith Rd	Wildomar	Signal	69.7	E	46.5	D
7. I-15 SB Ramps/Clinton Keith Rd	Caltrans	Signal	25.2	C	24.7	C
8. I-15 NB Ramps/Clinton Keith Rd	Caltrans	Signal	20.4	C	30.8	C
9. Arya Rd/Clinton Keith Rd	Wildomar	Signal	33.7	C	206.8	F
10. Arya Rd/Catt Rd	Wildomar	AWSC	8.4	A	8.8	A
11. Wildomar Trl/Proj Dwy 3	Wildomar	TWSC	13.9	B	17.0	C
12. Wildomar Trl/Proj Dwy 4	Wildomar	TWSC	32.2	D	86.5	F

=Unsatisfactory Intersection Operation AWSC = All-Way Stop Controlled

[1] Delay in Seconds

[2] Level of Service

Figure 18: Cumulative Conditions AM Peak Hour Traffic Volumes

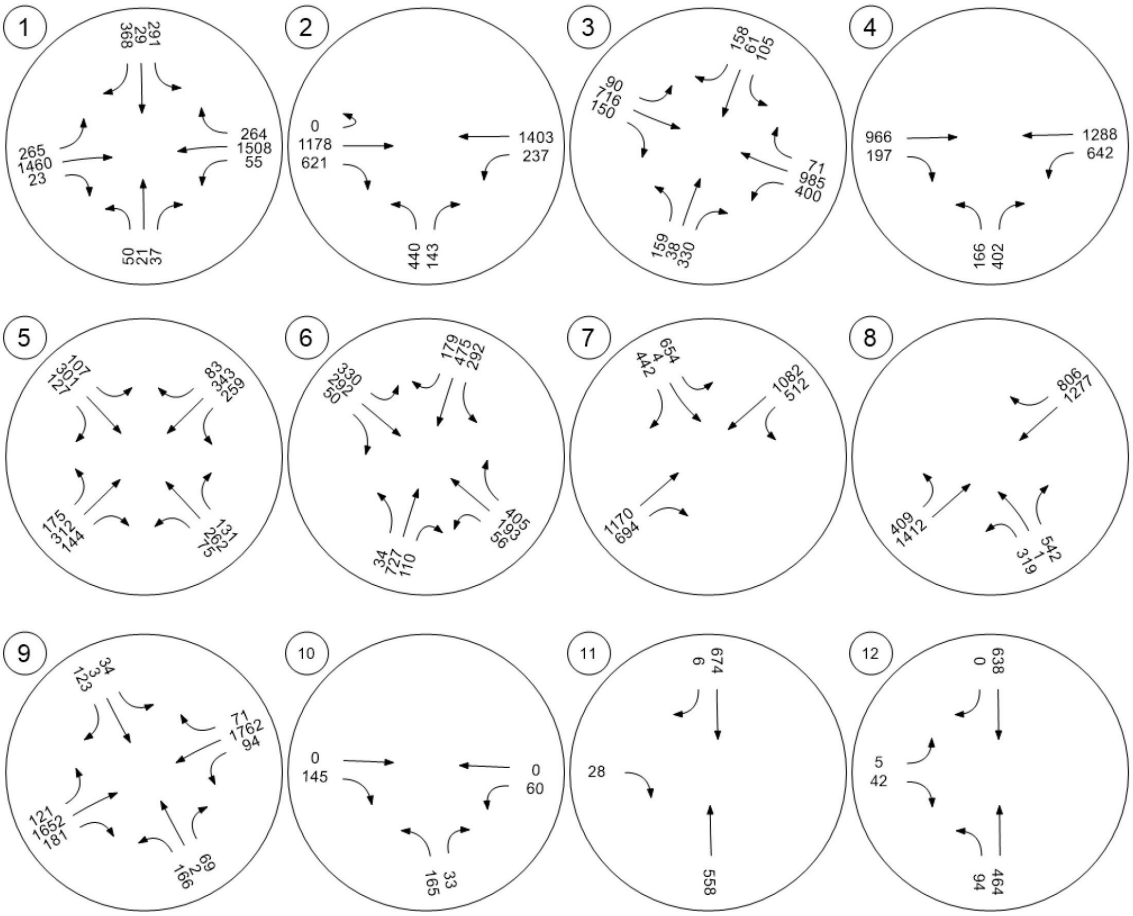
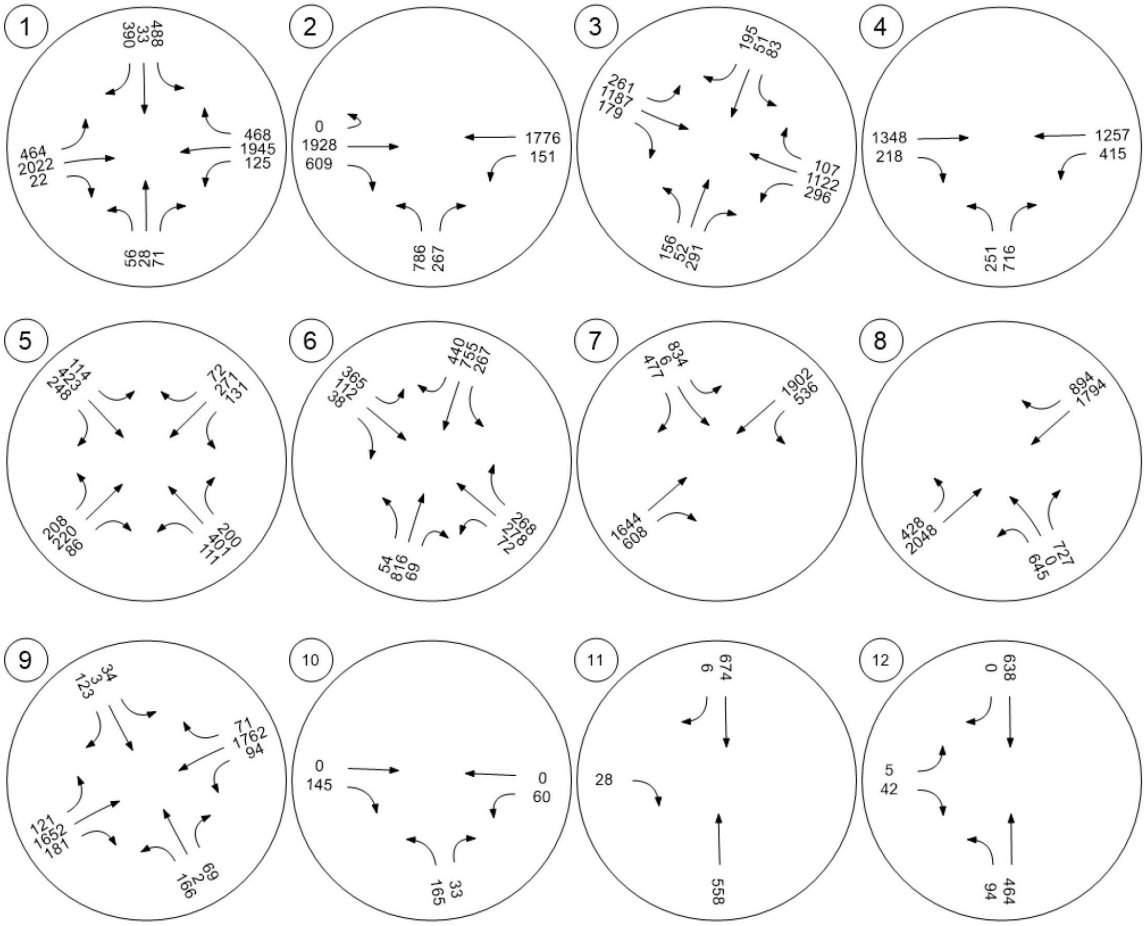




Figure 19: Cumulative Conditions PM Peak Hour Traffic Volumes





6 PROJECT QUEUEING AND TRUCK TURNING

6.1 Project Queueing

A queuing analysis for conducted for intersections that would result in LOS D or worse in the Cumulative conditions. The queueing analysis is provided in the *Table 8* below. The following intersections were analyzed for queueing:

- #1- Wildomar Trl/Clinton Keith Rd
- #2- Inland Valley Dr/Clinton Keith Rd
- #3- Nutmeg St/Clinton Keith Rd
- #4- California Oaks Rd/ Clinton Keith Rd
- #6- Palomar Rd/Clinton Keith Rd
- #9- Arya Rd/Clinton Keith Rd
- #10- Arya Rd/Catt Rd
- #11- Wildomar Trl/Project Dwy 3
- #12- Wildomar Trl/Project Dwy 4

Table 8: Project Queueing

Intersection	Turning Movement	Available Queue Length (Ft)	Existing		Project Completion		Cumulative Conditions	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
			Required Queueing (Ft)	Required Queueing (Ft)	Required Queueing (Ft)	Required Queueing (Ft)	Required Queueing (Ft)	Required Queueing (Ft)
1. Wildomar Trl/Clinton Keith Rd	NBL	125	86	87	82	81	76	73
	SBL	95	216	148	319	291	690	1304
	SBR	95	284	160	291	190	471	381
	EBL	165	220	308	255	382	480	1238
	EBR	525	146	222	197	290	403	766
	WBL	330	97	218	99	225	99	224
	WBR	255	19	27	66	104	199	404
2. Inland Valley Dr/Clinton Keith Rd	NBR	185	37	124	46	36	43	297
	EBU	300	0	0	0	0	0	0
	WBL	225	207	43	79	86	72	440
3. Nutmeg St/Clinton Keith Rd	NBL	190	81	81	92	97	146	211
	NBR	190	219	259	224	267	188	227
	SBL	65	94	104	98	107	84	94
	EBL	215	26	78	39	102	104	298
	WBL	235	349	342	386	360	386	360
4. California Oaks Rd/Clinton Keith Rd	NBL	275	114	160	126	175	204	251
	NBR	275	186	284	191	296	191	295
	WBL	225	682	534	745	600	745	600
6. Palomar Rd/Clinton Keith Rd	NBL	265	60	85	62	88	62	88
	SBL	300	465	396	517	435	517	435
	SBR	190	65	119	79	144	129	304
	EBL	150	319	257	354	284	725	513
	EBR	105	41	30	41	29	38	26
	WBL	250	91	107	95	112	95	112
	WBR	250	380	258	401	267	416	267
9. Arya Rd/Clinton Keith Rd	SBLTR	142	32	129	72	432	200	1068
	EBL	285	95	77	138	171	173	342
	WBL	315	140	190	145	203	145	203
	WBR	200	419	502	441	579	689	1859
10. Arya Rd/Catt Rd	NBLR	110	0	0	17	14	26	32
	WBTL	220	0	0	7	7	7	7
11. Wildomar Trl/Proj Dwy 3	EBR	75	0	0	4	6	14	17
12. Wildomar Trl/Proj Dwy 4	NBL	104	0	0	7	9	9	16
	EBL	140	0	0	7	10	11	34

Indicates queueing required greater than storage available

6.2 Truck Turning

The truck turning for WB-67 truck at the intersection of Wildomar Trl/Clinton Keith Rd is shown in *Figure 20*. The truck turning for WB-67 truck at the intersection of Wildomar Trl/Project Dwy 5 is shown in *Figure 21*.

Figure 20: Truck Turning at Wildomar Trl/Clinton Keith Rd

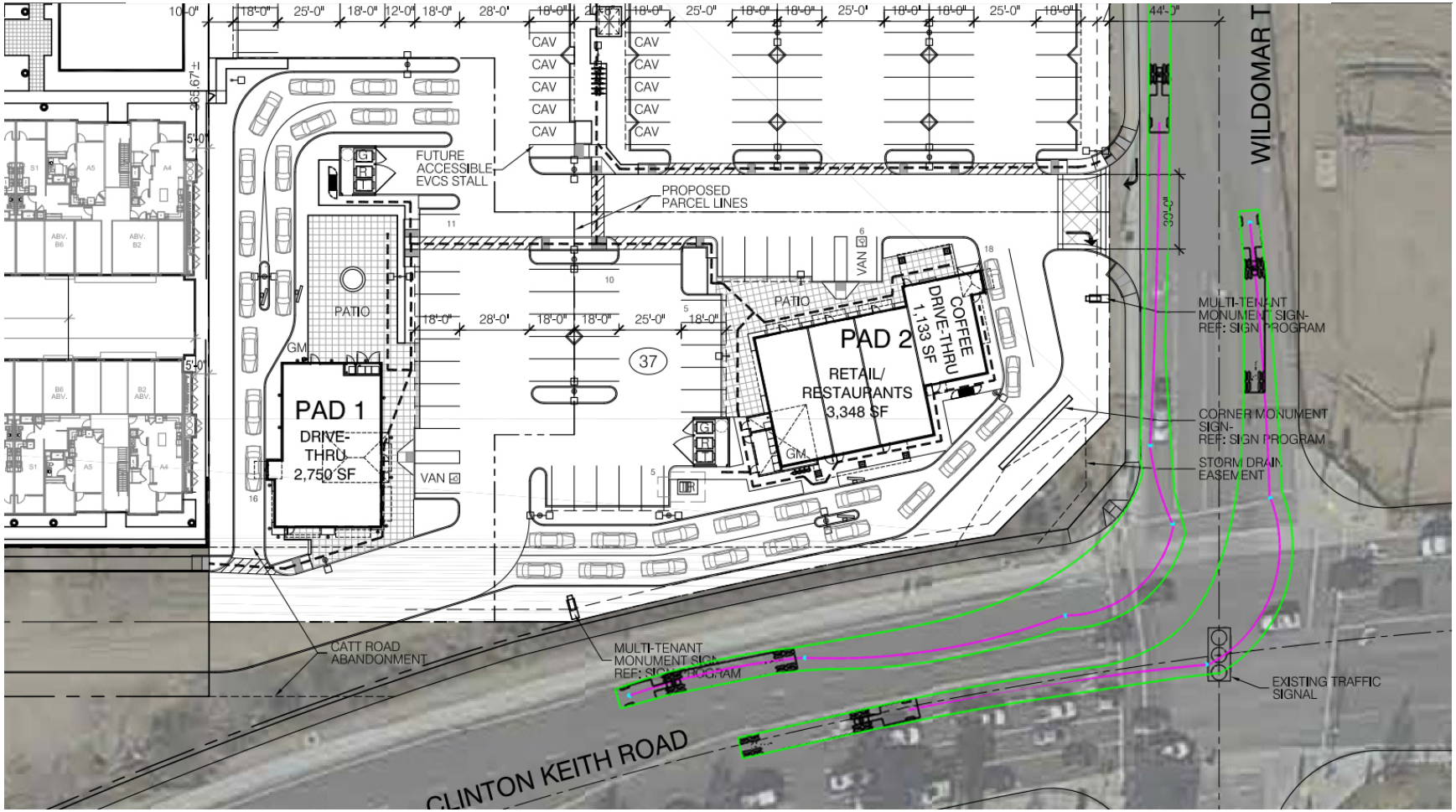
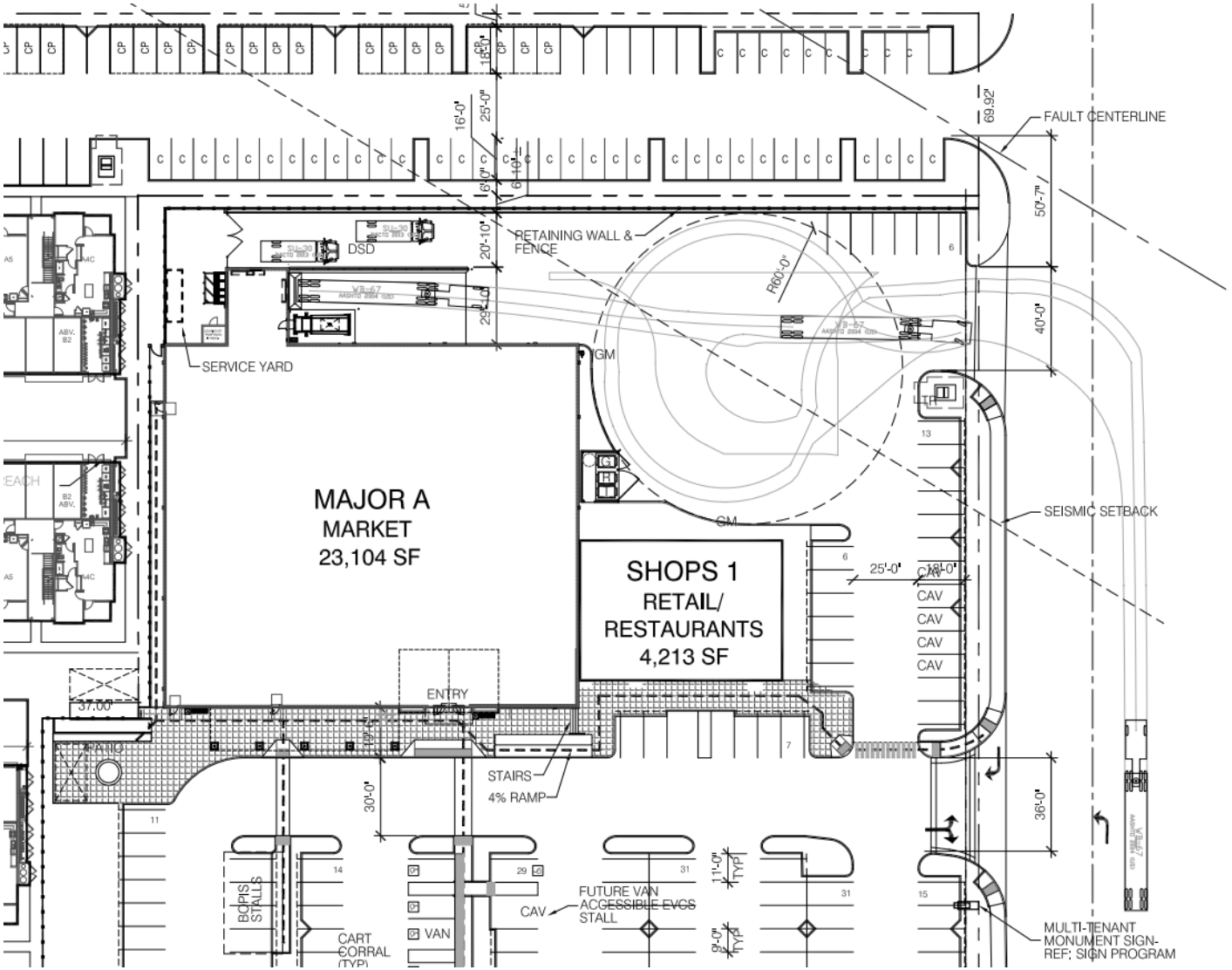


Figure 21: Truck Turning at Wildomar Trl/Project Dwy 5



7 RECOMMENDED PROJECT IMPROVEMENTS AND FAIR SHARE

7.1 Recommended Project Improvements

Development of the proposed mixed-use project would result in unsatisfactory LOS operations at one intersection in the Project Completion condition, and unsatisfactory LOS operations at five intersections in the Cumulative condition. The following improvements would result in the intersections operating with satisfactory LOS as shown in *Table 9* and *Table 10*.

- #1- Wildomar Trl/Clinton Keith Rd: Construct improvements as per approved CIP at this intersection. Improvements include the addition of WBT receiving lane at project frontage and the modification of WBR to WBTR. Signal modifications include changing SBL and NBL signal permissive phasing to protected permissive and overlapping SBR. In the event the CIP improvements are constructed before the project is constructed, the project would contribute fair-share to improvements at this intersection, as discussed further in Section 7.2.
- #2- Inland Valley Dr/Clinton Keith Rd: Project would contribute fair-share to the CIP at this intersection which improves the intersection to a 4-lane intersection. Improvements include addition of WBT lane and EBT receiving lane.[1]
- #6- Palomar Rd/Clinton Keith Rd: Project would contribute fair-share to intersection improvements as per approved CIP at this intersection. Improvements as per CIP include addition of 2nd EBL, modification of EBR to EBTR. Modification of WBT to WBTR. Modification on NBTR to NBT, addition of NBR and addition of 2nd SBL. The project's fair-share contributions would be limited to the 2nd SBL improvement on Clinton Keith Rd which would include widening the road to shift the SBR further northwest.
- #9- Arya Rd/Clinton Keith Rd: Construct improvements or provide fair-share as per approved Westpark Promenade Conditions of Approval. Improvements include northbound striping to provide dedicated NBL and NBTR, dedicated SBL and SBTR. Recommended signal modifications include changing NB-SB permissive phasing to protective permissive phasing. Project would construct improvements in the event that its construction commences before the construction of the adjacent Westpark Promenade project; otherwise, project would contribute fair-share for all improvements to this intersection as stated in Section 7.2. Improvements would include widening of Arya Rd to 4 lanes.
- #12- Wildomar Trl/Proj Dwy 4: Construct improvements as project design feature to add Two Stage Gap Acceptance for EBL approach from Project Dwy.

With the above stated improvements, all intersections are improved to satisfactory operations of LOS D or better, except for the intersections of Wildomar Trl/Clinton Keith Rd and Inland Valley Dr/Clinton Keith Rd which would improve the intersections to better-than-existing LOS F and LOS E operations, respectively, in the Cumulative PM peak hour conditions with the CIP improvements.

[1] It is to be noted that apart from City of Wildomar CIPs at the above intersections, improvements on Clinton Keith Rd from I-15 to Copper Craft Dr are covered by TUMF for improvement from 2-lanes to 4-lanes.

Table 9: Project Completion Recommended Improvements

Intersection	Jurisdiction	Control Type	Project Completion				Improvement	Project Completion with Improvements			
			AM Peak		PM Peak			AM Peak		PM Peak	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]		Delay[1]	LOS[2]	Delay[1]	LOS[2]
9. Arya Rd/Clinton Keith Rd	Wildomar	Signal	36.2	D	84.1	F	Restripe NBTL to NBL and NBR to NBTR, SBLTR to SBL Add SBTR	-	-	27.3	C

=Unsatisfactory Intersection Operation AWSC = All-Way Stop Controlled TWSC = Two-Way Stop Controlled

[1] Delay in Seconds

[2] Level of Service

Table 10: Cumulative Conditions Recommended Improvements

Intersection	Jurisdiction	Control Type	Cumulative				Improvement	Cumulative with Improvements			
			AM Peak		PM Peak			AM Peak		PM Peak	
			Delay[1]	LOS[2]	Delay[1]	LOS[2]		Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Wildomar Trl/Clinton Keith Rd	Wildomar	Signal	57.0	E	140.3	F	Restripe WBR to WBTR as per CIP. Signal Phasing: Change SBL and NBL signal permissive phasing to protected permissive. Overlap SBR.	24.4	C	90.2	F
2. Inland Valley Dr/Clinton Keith Rd	Wildomar	Signal	96.9	F	210.1	F	Geometric improvements as per CIP include addition of WBT, and EBT receiving lane. CIP also includes Signal Modification.	17.9	B	76.5	E
6. Palomar Rd/Clinton Keith Rd	Wildomar	Signal	69.7	E	46.5	D	Geometric improvements as per CIP include addition of 2nd EBL, modification of EBR to EBTR. Modification of WBT to WBTR. Modification on NBTR to NBT and addition of NBR. Addition of 2nd SBL.	35.9	D	-	-
9. Arya Rd/Clinton Keith Rd	Wildomar	Signal	33.7	C	206.8	F	Restripe NBTL to NBL and NBR to NBTR, SBLTR to SBL Add SBTR Signal Phasing: Change NB SB permissive phasing to protective permissive phasing.	-	-	51.0	D
12. Wildomar Trl/Proj Dwy 4	Wildomar	TWSC	32.2	D	86.5	F	Add Two Stage Gap Acceptance for EBL approach out of Project Dwy	-	-	18.3	C

=Unsatisfactory Intersection Operation AWSC = All-Way Stop Controlled TWSC = Two-Way Stop Controlled

[1] Delay in Seconds

[2] Level of Service

7.2 Project Fair Share for LOS and Queueing Improvements

The percentage of project fair-share at affected intersections was calculated using the total trips generated by the project divided by the total "new" traffic, which is the net increase in traffic volume in the Cumulative conditions as a result of all other proposed projects.

The project's fair-share percentage for each recommended LOS improvement, as identified in Section 7.1, is listed in *Table 11* below. Additionally, the project has the potential to create or contribute to existing queuing capacity deficiencies as indicated previously in Table 8. Table 11 includes fair-share for intersections which would require improvements for identified queueing deficiencies. Deficient queueing can be improved either with striping modifications at intersections or through Intelligent Transportation Systems (ITS). The City of Wildomar has adopted ITS program which would improves deficient queueing operations to satisfactory operations.

Within the City of Wildomar, as a Condition of Approval, the project is required to contribute to the ITS program which is used by the City to resolve queueing operations at impacted intersections as traffic conditions evolve. ITS uses various methods, such as intersection cameras, loop detection, and timing modifications to optimize intersection operations in real time. Similarly, for intersections within the City of Murrieta (Nutmeg St/Clinton Keith Rd and California Oaks Rd/Clinton Keith Rd), the project will contribute payment to City of Murrieta CIP #13039 (Traffic Signal Adaptive Timing Program – Citywide). The applicant would work with the City of Murrieta to address queuing at the two intersections with contribution to the adaptive signal timing program.

Table 11 identifies fair-share to contribute towards ITS program along with fair-share for LOS improvements. Therefore, within the City of Wildomar and the City of Murrieta, these improvements would resolve LOS and/or queueing deficiencies. The project would not substantially increase hazards at a dangerous intersection and impacts would be less than significant.

Table 11: Cumulative Conditions Project Fair Share

Intersection	Existing	Project	2024	2024 with Project	Total New Traffic	Project % of New Traffic
AM Peak Hour						
1. Wildomar Trl/Clinton Keith Rd	2437	186	4185	4371	1934	9.62%
2. Inland Valley Dr/Clinton Keith Rd	2139	142	3880	4022	1883	7.54%
3. Nutmeg St/Clinton Keith Rd	2460	76	3187	3263	803	9.46%
4. California Oaks Rd/Clinton Keith Rd	3124	43	3618	3661	537	8.01%
6. Palomar Rd/Clinton Keith Rd	2726	34	3109	3143	417	8.15%
9. Arya Rd/Clinton Keith Rd	2611	137	4141	4278	1667	8.22%
PM Peak Hour						
1. Wildomar Trl/Clinton Keith Rd	2878	287	5825	6112	3234	8.87%
2. Inland Valley Dr/Clinton Keith Rd	2536	217	5300	5517	2981	7.28%
3. Nutmeg St/Clinton Keith Rd	2632	112	3868	3980	1348	8.31%
4. California Oaks Rd/Clinton Keith Rd	3369	59	4146	4205	836	7.06%
6. Palomar Rd/Clinton Keith Rd	2842	54	3480	3534	692	7.80%
9. Arya Rd/Clinton Keith Rd	3151	188	5610	5798	2647	7.10%

Shading indicates higher fair-share percent of either AM or PM peak hours for each intersection.

APPENDIX A – SCOPE OF WORK

PROJECT SCOPING FORM FOR TRAFFIC ANALYSIS

This letter acknowledges the Riverside County Transportation Department requirements for traffic impact analysis of the following project. The analysis must follow the Riverside County Transportation Department Transportation Analysis Guidelines dated August 2020.

Case No. PA 21-0145,
Related Cases - PAR- 21-0055, PA 21-0146
SP No.
EIR No.
GPA No.
CZ No.
Project Name: Clinton Keith & Wildomar Trail Mixed-Use
Project Address: APNs-376-410-015, 376-410-016, 376-410-017, 376-410-021
Project Description: Mixed-use project consisting of 150-unit apartment project, a 23,104 s.f. retail grocery store, 4,000 s.f. of retail store, 2,600 s.f. of fast-food drive through restaurant, 3,348 s.f. of sit-down restaurant, 1,133 s.f. of coffee shop with drive through.

	Consultant	Developer
Name:	EPD Solutions	Sage Investco
Address:	2 Park Plaza, Suite #1120	4340 Von Karman Avenue #110
	Irvine, CA 92614	Newport Beach, CA 92660
Telephone:	(949) 794 -1180	(949) 954-6100
Fax:		

A. Trip Generation Source: ITE 11th Edition

Current GP Land Use *MUPA* Proposed Land Use MUPA

Current Zoning C-P-S, Mixed Use Overlay Proposed Zoning C-P-S, Mixed Use Overlay

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
Weekday AM Trips	0	0	0	133	143	277
Weekday PM Trips	0	0	0	194	200	394
Weekend Peak Hr of Generator	0	0	0			

Internal Trip Allowance ☐ Yes ☐ No (_____% Trip Discount)
Pass-By Trip Allowance ☑ Yes ☐ No (50%-55% % Trip Discount)

A passby trip discount of 25% is allowed for appropriate land uses. The passby trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: (Please see attached exhibit)

Residential Trips: N 38 % S 45 % E 15 % W 2 %
Retail Trips: N 10 % S 10 % E 65 % W 15 %

C. Background Traffic

Project Build-out Year: *2024* Annual Ambient Growth Rate: 2 %

Phase Year(s)

Other area projects to be analyzed: To be provided by City of Wildomar

Model/Forecast methodology Build-Up Method

D. **Study intersections:** *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1. Wildomar Trl/Clinton Keith Rd
2. Inland Valley Dr/Clinton Keith Rd
3. Nutmeg St/Clinton Keith Rd
4. California Oaks Rd/Clinton Keith Rd
5. Nutmeg St/Jackson Ave
6. Palomar Rd/Clinton Keith Rd
7. I-15 SB Ramps/Clinton Keith Rd
8. I-15 NB Ramps/Clinton Keith Rd
9. Arya Rd/Clinton Keith Rd
10. Arya Rd/Catt Rd (Note: This includes Proj Dwy1 and Proj Dwy 2)
11. Wildomar Trl/Project Dwy 3
12. Wildomar Trl/Project Dwy 4

E. **Study Roadway Segments:** *(NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)*

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

E. Other Jurisdictional Impacts

Is this project within a City's Sphere of Influence or one-mile radius of City boundaries? ☐ Yes ☑ No

If so, name of City Jurisdiction:

F. Site Plan Please see attached

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Transportation Department)
(NOTE: If the traffic study states that "a traffic signal is warranted" (or "a traffic signal appears to be warranted," or similar statement) at an existing unsignalized intersection under existing conditions, 8-hour approach traffic volume information must be submitted in addition to the peak hourly turning movement counts for that intersection.)

Review of internal circulation will be provided in TIA, queueing on turn-lanes at intersections which have LOS "D" or worse".

H. Existing Conditions

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts. Date of counts.

EPD will will collect new counts at study intersections.

*** NOTE* Traffic Study Submittal Form and appropriate fee must be submitted with, or prior to submittal of this form. Transportation Department staff will not process the Scoping Agreement prior to receipt of the fee.**

Recommended by:

Meghan Macias, TE — 12/1/2021

Consultant's Representative — Date

Project Scoping Form Submitted on 11/1/2021

Revised on 12/1/2021

Approved Project Scoping Form:

City of Wildomar Public Works Department — Date

Recommended for Approval 12/22/21

Justin P. Schlaefli

Analysis Scenarios

1. Existing Conditions. Existing conditions will be analyzed using new traffic counts.

2. Project Completion (Existing plus Ambient Growth plus Project). Project Completion traffic volumes will be determined by adding the project trips to Existing conditions and adding an ambient growth rate of 2 percent per year to existing traffic volumes.

3. Cumulative (Existing plus Ambient Growth plus Project plus Cumulative Projects). Cumulative (2024) traffic volumes will be developed by adding the project trips to Existing conditions, adding an ambient growth rate of 2 percent per year to existing traffic volumes and adding traffic generated by other approved and pending development projects.

Trip Distribution

The project trips were distributed to the surrounding roadways based on the location of the project in relation to local and regional land uses and transportation facilities. As shown in Figure 2, approximately 38% of the *residential trips* would travel north on I-15, 45% would travel south on I-15, 15% would travel east of I-15 and 2% would travel west of I-15. As shown in Figure 3, approximately 10% of the retail trips would travel north on I-15, 10% would travel south on I-15, 65% would travel east of I-15 and 15% would travel west of I-15.

VMT Screening

As per Exhibit 1 of the City of Wildomar Vehicle Miles Travelled (VMT) CEQA Threhold Policy Guidelines, any mixed use project with at least 30 percent residential will screen from requiring a VMT analysis. The proposed mixed use development encompasses 4.47 acres of residential space and 4.63 acres of commerical space providing approximately 49 percent residential. Hence the proposed development would screen from requiring a VMT analysis.

Parking

The residential gated portion of the project site will be accessible via Clinton Keith Road and Arya Road to the southwest corner of the site and Wildomar Trail to the northeast corner. Both access points will include a rolling gate. The development will include 283 spaces consisting of 130 open stalls, 76 carport stalls, and 77 garage stalls. Circulation will be provided via 25 FT and 27 FT drive aisles. The distribution of electric vehicle stalls is not mandated by regulation and will be determined in final construction designs.

The commercial will be accessible via three points along Wildomar Trail and via Clinton Keith Road. The commercial portion of the project contains 19 fewer stalls than required by the zoning ordinance requirement of 213 stalls (6/1000) overall. The reduced parking is justified by the adjacent residential component as residents would walk to the commercial portion from the integrated residential development to shop and dine. This proximity of mixed uses would reduce the number of required vehicle parking spaces on the commercial side of the project. It should be noted that the project does not propose shared parking, as the residential portion of the project would be gated and not accessible for retail parking.

Table 1: Proposed Trip Generation

				AM Peak Hour			PM Peak Hour		
Land Use		**Units**	**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Proposed Project Trip Rate									
Supermarket[1]		TSF	93.84	1.69	1.17	2.86	4.48	4.48	8.95
Strip Retail Plaza[2]			99.67	2.36	1.57	3.93	5.08	5.08	10.16
Fast-Food Restaurant With Drive-Through Window[3]		TSF	467.48	22.75	21.86	44.61	17.18	15.85	33.03
Coffee/Donut Shop with Drive-Through Window[4]		TSF	533.57	43.80	42.08	85.88	19.50	19.50	38.99
High-Turnover (Sit-Down) Restaurant[5]		TSF	107.20	5.26	4.31	9.57	5.52	3.53	9.05
Multifamily Housing (Mid-Rise)[6]		DU	4.54	0.09	0.28	0.37	0.15	0.24	0.39
Proposed Project Trip Generation									
Supermarket[1]	23.104	TSF	2168	39	27	66	103	103	206
Shops[2]	4.0	TSF	399	9	7	16	20	21	41
Fast-Food Restaurant With Drive-Through Window[3]	2.6	TSF	1215	59	57	116	45	41	86
Coffee/Donut Shop with Drive-Through Window[4]	1.133	TSF	605	50	48	98	22	22	44
High-Turnover (Sit-Down) Restaurant[5]	3.348	TSF	359	18	14	32	18	12	30
Multifamily Housing (Mid-Rise)[6]	150	DU	681	13	43	56	23	36	59
Total Trip Generation			5427	188	196	384	231	235	466
Pass-By Trips									
Fast-Food and Coffee Shop (50% AM, 55% PM) [7]			*-956*	*-55*	*-53*	*-107*	*-37*	*-35*	*-72*
Total Net Trip Generation			**4471**	**133**	**143**	**277**	**194**	**200**	**394**

TSF = Thousand Square Feet

[1] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2017*. Land Use Code 850 - Supermarket .

[2] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2017*. Land Use Code 822 - Strip Retail Plaza. Fitted curve equation T = 42.20 (X) + 229.68 was used for Daily trip rate. Fitted curve equation Ln (T) = 0.66 Ln (X) + 1.84 was used for AM peak hour trip rate. Fitted curve equation Ln (T) = 0.71 Ln (X) + 2.72 was used for PM peak hour trip rate.

[3] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2017*. Land Use Code 934 - Fast-Food Restaurant with Drive-Through Window.

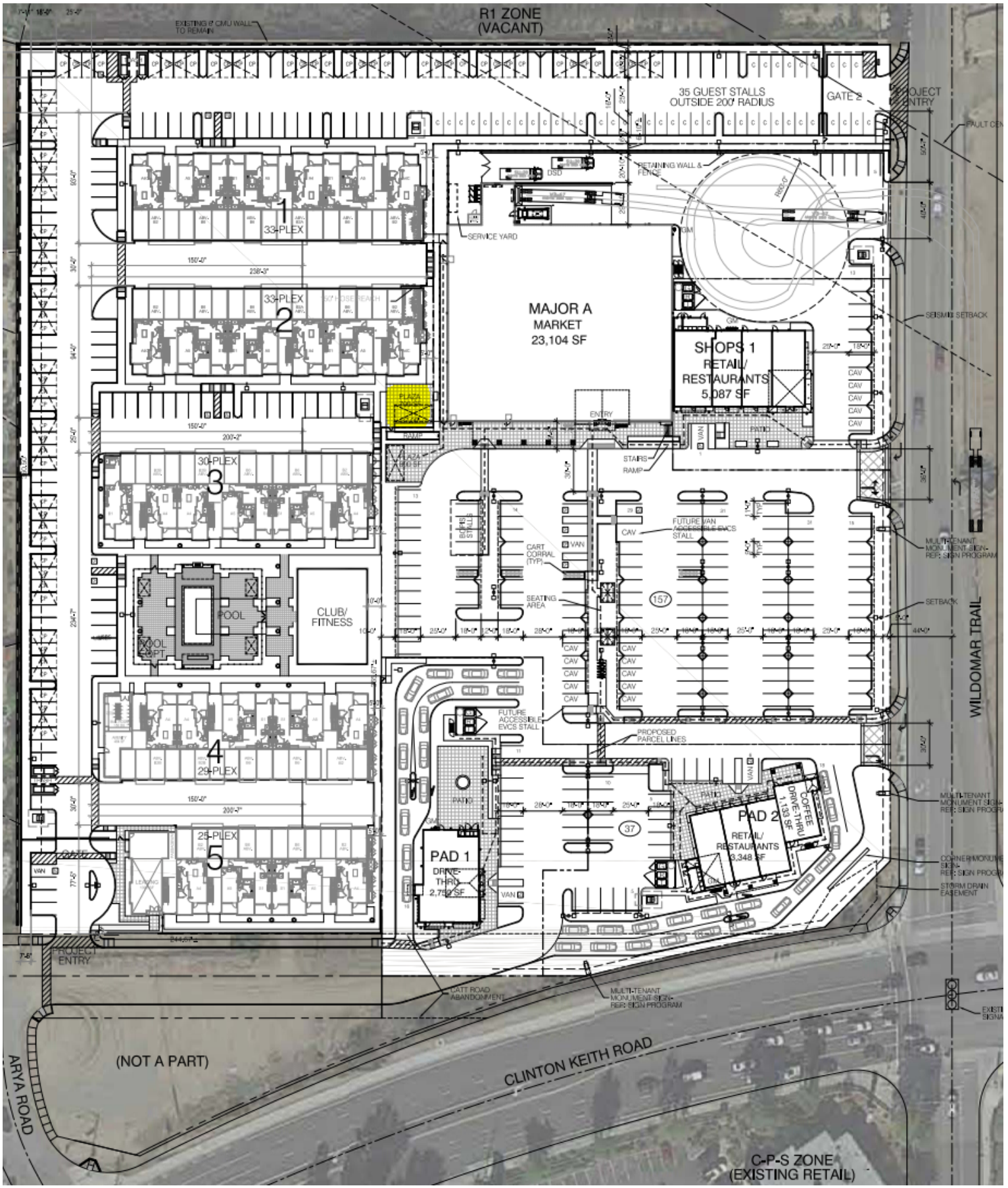
[4] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2017*. Land Use Code 937 - Coffee/Donut Shop with Drive-Through Window.

[5] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2017*. Land Use Code 932 - High-Turnover (Sit-Down) Restaurant.

[6] Trip rates from the Institute of Transportation Engineers, *Trip Generation,11th Edition, 2017*. Land Use Code 221 - Multifamily Housing (Mid-Rise).

[7] Pass-By Trip Percentage from the Institute of Transportation Engineers, Web-based App: Pass-By Data and Rate Tables/2021 Pass-By Tables for ITE Trip Gen Appenidces.
The same Pass-By Trip Percentage was applied to Land use code 937 - Coffee/Donut Shop with Drive-Through Window as no pass-by trip percentage is provided for this land use by ITE. The daily pass-by reduction of 52.5% was assumed as an average of the AM and PM rates.

Figure 1: Site Plan



Please note that the higlighted area provides pedestrian access from the residential section to the shopping center.

Figure 2: Proposed Residential Trip Distribution

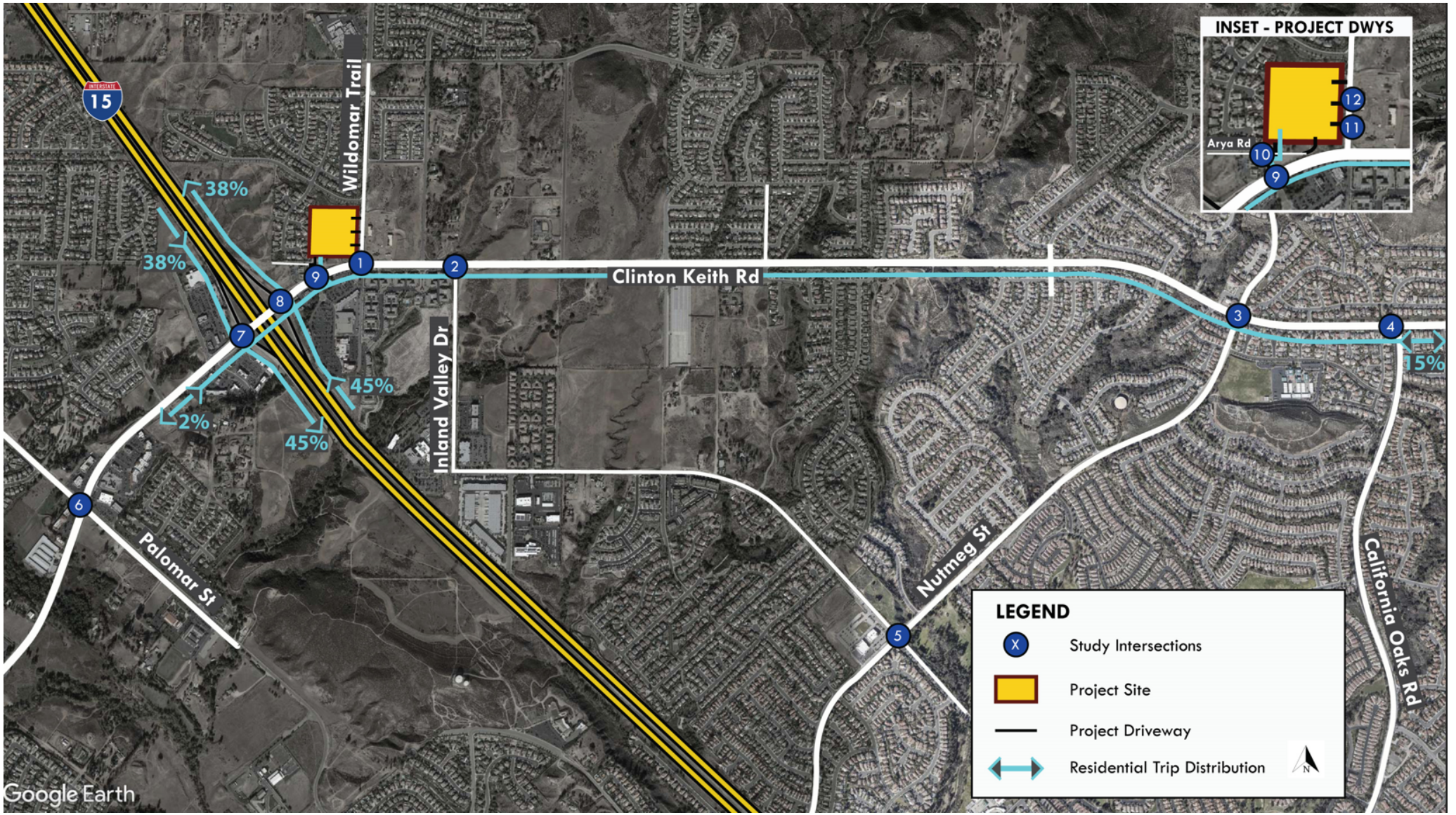
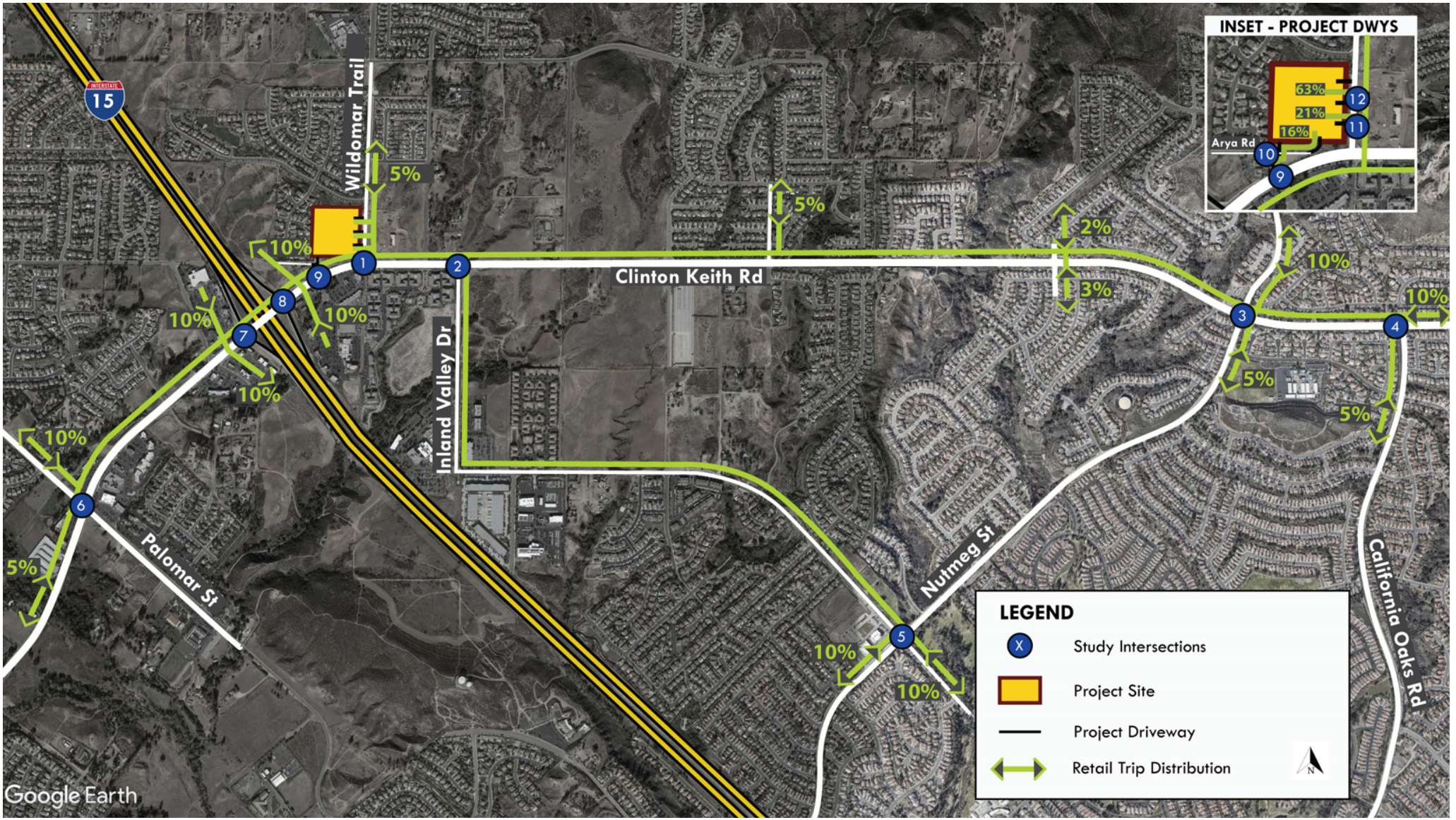


Figure 3: Proposed Retail Trip Distribution



Please note that project driveway on intersection 11 is RIRO.

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

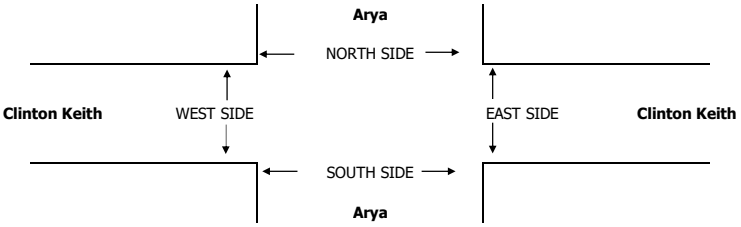
DATE:	LOCATION:	Wildomar	PROJECT #:	SC3221
Wed, Dec 15, 21	NORTH & SOUTH:	Arya	LOCATION #:	1
	EAST & WEST:	Clinton Keith	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Arya - Oak Creek Mall			SOUTHBOUND Arya - Oak Creek Mall			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 0.5	NT 0.5	NR 1	SL 0	ST 1	SR 0	EL 1	ET 2.5	ER 0.5	WL 1	WT 3	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	33	3	6	0	0	7	20	200	32	14	207	4	526	0	0	16	0	16
	7:15 AM	39	0	7	1	0	13	10	162	38	19	235	12	536	0	0	5	1	6
	7:30 AM	35	0	14	4	0	12	7	204	35	27	271	12	621	0	0	5	0	5
	7:45 AM	32	0	17	0	1	17	16	247	47	20	326	12	735	0	0	14	0	14
	8:00 AM	47	1	15	1	0	12	14	209	43	30	239	8	619	0	0	7	0	7
	8:15 AM	46	1	20	5	2	12	26	222	49	13	233	7	636	0	0	15	0	15
	8:30 AM	43	1	12	1	1	13	11	173	55	16	214	10	550	0	0	7	0	7
	8:45 AM	54	1	14	3	1	9	11	181	67	20	226	5	592	0	0	7	1	8
	VOLUMES	329	7	105	15	5	95	115	1,598	366	159	1,951	70	4,815	0	0	76	2	78
	APPROACH %	75%	2%	24%	13%	4%	83%	6%	77%	18%	7%	89%	3%						
	APP/DEPART	441	/	116	115	/	528	2,079	/	1,720	2,180	/	2,451	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	160	2	66	10	3	53	63	882	174	90	1,069	39	2,611					
	APPROACH %	70%	1%	29%	15%	5%	80%	6%	79%	16%	8%	89%	3%						
	PEAK HR FACTOR		0.851			0.868			0.902			0.837		0.888					
	APP/DEPART	228	/	63	66	/	267	1,119	/	958	1,198	/	1,323	0					
PM	4:00 PM	61	3	14	5	1	11	15	239	47	16	241	10	663	0	0	10	0	10
	4:15 PM	58	3	27	5	1	8	15	293	64	8	259	3	744	0	0	10	0	10
	4:30 PM	71	1	23	2	1	10	10	280	71	10	305	9	793	0	0	6	0	6
	4:45 PM	75	0	23	4	1	12	11	290	63	17	254	16	766	1	0	2	0	3
	5:00 PM	78	3	23	4	1	20	10	261	70	13	297	10	790	0	0	5	0	5
	5:15 PM	72	1	31	0	0	11	2	303	69	30	275	8	802	0	0	2	0	2
	5:30 PM	71	3	23	4	0	8	11	304	73	16	231	7	751	0	0	6	0	6
	5:45 PM	69	2	30	4	0	8	10	290	69	11	222	1	716	0	0	3	0	3
	VOLUMES	555	16	194	28	5	88	84	2,260	526	121	2,084	64	6,025	1	0	44	0	45
	APPROACH %	73%	2%	25%	23%	4%	73%	3%	79%	18%	5%	92%	3%						
	APP/DEPART	765	/	120	121	/	653	2,870	/	2,482	2,269	/	2,770	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	296	5	100	10	3	53	33	1,134	273	70	1,131	43	3,151					
	APPROACH %	74%	1%	25%	15%	5%	80%	2%	79%	19%	6%	91%	3%						
	PEAK HR FACTOR		0.964			0.660			0.963			0.960		0.982					
	APP/DEPART	401	/	66	66	/	347	1,440	/	1,244	1,244	/	1,494	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	AM BEGIN PEAK HR			7:30 AM			1	0	0	0	1					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	1	1	0	0	2	0	0	0	0	0	1	1	0	0	2
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	TOTAL	1	3	0	0	4	0	1	0	0	1	1	2	0	0	3
	PM BEGIN PEAK HR			4:30 PM			0	0	0	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

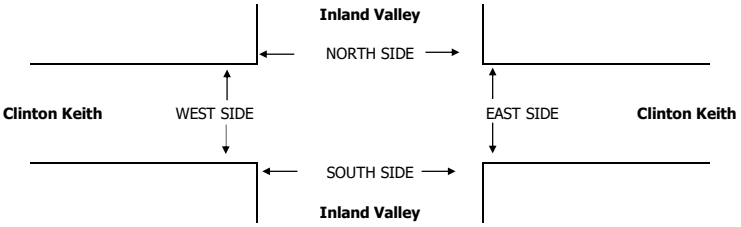
DATE:	LOCATION:	Wildomar	PROJECT #:	SC3221
Wed, Dec 15, 21	NORTH & SOUTH:	Inland Valley	LOCATION #:	2
	EAST & WEST:	Clinton Keith	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Inland Valley			SOUTHBOUND Inland Valley			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 1	NT X	NR 1	SL X	ST X	SR X	EL X	ET 2	ER 1	WL 1	WT 1	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	45	0	3	0	0	0	0	152	62	12	152	0	426	0	0	3	0	3
	7:15 AM	56	0	3	0	0	0	0	99	59	16	165	0	398	0	0	3	0	3
	7:30 AM	73	0	10	0	0	0	0	126	74	16	219	0	518	0	0	0	0	0
	7:45 AM	72	0	8	0	0	0	0	148	107	30	221	0	586	0	0	4	0	4
	8:00 AM	62	0	7	0	0	0	0	132	101	30	159	0	491	0	0	2	1	3
	8:15 AM	45	0	4	0	0	0	0	131	127	27	210	0	544	0	0	1	1	2
	8:30 AM	47	0	13	0	0	0	0	112	72	36	168	0	448	0	0	1	0	1
	8:45 AM	50	0	10	0	0	0	0	109	82	30	213	0	494	0	0	0	0	0
	VOLUMES	450	0	58	0	0	0	0	1,009	684	197	1,507	0	3,921	0	0	14	2	16
	APPROACH %	89%	0%	11%	0%	0%	0%	0%	59%	40%	12%	88%	0%						
	APP/DEPART	508	/	0	0	/	881	1,707	/	1,069	1,706	/	1,971	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	252	0	29	0	0	0	0	537	409	103	809	0	2,148					
	APPROACH %	90%	0%	10%	0%	0%	0%	0%	56%	43%	11%	89%	0%						
	PEAK HR FACTOR		0.846			0.000			0.920			0.910		0.910					
	APP/DEPART	281	/	0	0	/	512	953	/	568	914	/	1,068	0					
PM	4:00 PM	108	0	23	0	0	0	0	158	62	14	176	0	541	0	0	5	0	5
	4:15 PM	90	0	26	0	0	0	0	239	72	6	217	0	650	0	0	1	0	1
	4:30 PM	133	0	29	0	0	0	0	207	67	4	198	0	638	0	0	0	0	0
	4:45 PM	77	0	22	0	0	0	0	233	71	5	214	0	622	0	0	5	0	5
	5:00 PM	116	0	29	0	0	0	0	197	63	5	216	0	626	0	0	4	1	5
	5:15 PM	90	0	16	0	0	0	0	265	63	7	192	0	633	0	0	5	0	5
	5:30 PM	70	0	13	0	0	0	0	256	58	8	171	0	576	0	0	3	0	3
	5:45 PM	76	0	8	0	0	0	0	224	67	9	161	0	545	0	0	3	0	3
	VOLUMES	760	0	166	0	0	0	0	1,779	523	58	1,545	0	4,858	0	0	26	1	27
	APPROACH %	82%	0%	18%	0%	0%	0%	0%	76%	22%	4%	96%	0%						
	APP/DEPART	926	/	0	0	/	581	2,328	/	1,946	1,604	/	2,331	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	416	0	106	0	0	0	0	876	273	20	845	0	2,547					
	APPROACH %	80%	0%	20%	0%	0%	0%	0%	76%	24%	2%	98%	0%						
	PEAK HR FACTOR		0.806			0.000			0.929			0.971		0.978					
	APP/DEPART	522	/	0	0	/	293	1,159	/	983	866	/	1,271	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	AM BEGIN PEAK HR			7:30 AM			0	0	0	0	0					
PM	4:00 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1	1	0	0	2	0	0	0	0	0	1	1	0	0	2
	PM BEGIN PEAK HR			4:15 PM			0	0	0	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Dec 15, 21

LOCATION: Wildomar
NORTH & SOUTH: Nutmeg
EAST & WEST: Clinton Keith

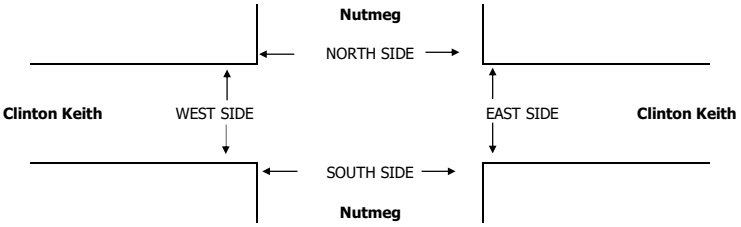
PROJECT #: SC3221
LOCATION #: 3
CONTROL: SIGNAL

NOTES:

AM PM MD OTHER OTHER — ▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND Nutmeg			SOUTHBOUND Nutmeg			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	14	1	76	31	32	5	6	173	27	85	127	9	586	0	0	0	1	1
	7:15 AM	13	8	72	17	12	6	5	121	13	63	160	19	509	0	0	0	0	0
	7:30 AM	12	12	92	21	13	3	4	120	11	81	184	21	574	0	0	0	0	0
	7:45 AM	8	7	77	26	20	6	7	165	26	111	184	17	654	0	0	1	3	4
	8:00 AM	27	11	81	27	17	9	6	127	40	82	161	15	603	0	0	1	0	1
	8:15 AM	44	7	67	27	9	12	4	120	35	111	178	15	629	0	0	0	1	1
	8:30 AM	11	7	69	26	12	8	6	129	13	64	188	30	563	0	0	1	0	1
	8:45 AM	11	6	56	17	12	6	6	112	10	60	183	12	491	0	0	1	0	1
	VOLUMES	140	59	590	192	127	55	44	1,067	175	657	1,365	138	4,609	0	0	4	5	9
	APPROACH %	18%	7%	75%	51%	34%	15%	3%	83%	14%	30%	63%	6%						
	APP/DEPART	789	/	237	374	/	954	1,286	/	1,854	2,160	/	1,564	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	91	37	317	101	59	30	21	532	112	385	707	68	2,460					
	APPROACH %	20%	8%	71%	53%	31%	16%	3%	80%	17%	33%	61%	6%						
	PEAK HR FACTOR		0.935			0.896			0.840			0.929		0.940					
	APP/DEPART	445	/	124	190	/	552	665	/	954	1,160	/	830	0					
PM	4:00 PM	13	17	78	23	7	7	8	159	13	93	171	25	614	0	0	0	0	0
	4:15 PM	11	6	60	19	7	8	12	185	15	66	186	20	595	0	0	0	0	0
	4:30 PM	12	13	87	21	12	8	15	196	21	59	196	19	659	0	0	0	0	0
	4:45 PM	19	11	69	25	14	6	14	196	21	78	206	36	695	0	0	0	0	0
	5:00 PM	20	8	69	20	14	3	17	188	18	74	166	23	620	0	0	1	0	1
	5:15 PM	16	18	55	14	9	6	9	229	14	74	189	25	658	0	0	0	0	0
	5:30 PM	15	12	72	17	8	4	13	209	10	79	150	26	615	0	0	0	0	0
	5:45 PM	14	12	52	13	8	7	7	193	12	87	157	22	584	0	0	0	0	0
	VOLUMES	120	97	542	152	79	49	95	1,555	124	610	1,421	196	5,040	0	0	1	0	1
	APPROACH %	16%	13%	71%	54%	28%	18%	5%	88%	7%	27%	64%	9%						
	APP/DEPART	759	/	387	280	/	813	1,774	/	2,249	2,227	/	1,591	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	67	50	280	80	49	23	55	809	74	285	757	103	2,632					
	APPROACH %	17%	13%	71%	53%	32%	15%	6%	86%	8%	25%	66%	9%						
	PEAK HR FACTOR		0.886			0.844			0.931			0.895		0.947					
	APP/DEPART	397	/	207	152	/	408	938	/	1,169	1,145	/	848	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	3	0	1	0	4	3	0	1	0	4	0	0	0	0	0
	7:15 AM	1	0	2	0	3	1	0	1	0	2	0	0	1	0	1
	7:30 AM	1	1	1	0	3	0	1	1	0	2	1	0	0	0	1
	7:45 AM	1	1	2	0	4	1	1	2	0	4	0	0	0	0	0
	8:00 AM	2	1	2	0	5	2	1	2	0	5	0	0	0	0	0
	8:15 AM	3	0	1	0	4	3	0	1	0	4	0	0	0	0	0
	8:30 AM	0	1	2	0	3	0	1	2	0	3	0	0	0	0	0
	8:45 AM	2	0	1	0	3	2	0	0	0	2	0	0	1	0	1
	TOTAL	13	4	12	0	29	12	4	10	0	26	1	0	2	0	3
	AM BEGIN PEAK HR			7:30 AM			6	3	6	0	15					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	2	0	0	1	3	0	0	0	0	0	2	0	0	1	3
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	2	0	0	0	2	0	0	0	0	0	2	0	0	0	2
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	4	1	0	1	6	0	0	0	0	0	4	1	0	1	6
	PM BEGIN PEAK HR			4:30 PM			0	0	0	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Dec 15, 21

LOCATION: Wildomar
NORTH & SOUTH: California Oaks
EAST & WEST: Clinton Keith

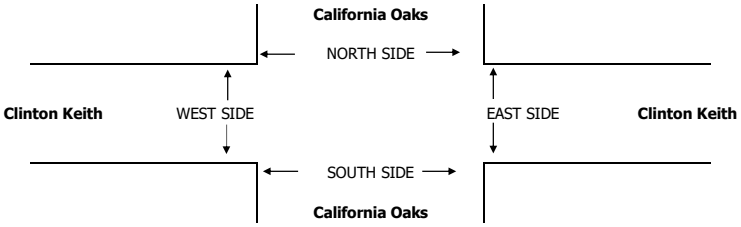
PROJECT #: SC3221
LOCATION #: 4
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND California Oaks			SOUTHBOUND California Oaks			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 1.5	NT X	NR 1.5	SL X	ST X	SR X	EL X	ET 2	ER 0	WL 1	WT 2	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	16	0	96	0	0	0	0	242	36	145	189	0	724	0	0	0	0	0
	7:15 AM	19	0	102	0	0	0	0	195	27	121	228	0	692	0	0	0	0	0
	7:30 AM	24	0	96	0	0	0	0	199	35	144	263	0	761	0	0	0	0	0
	7:45 AM	23	0	93	0	0	0	0	220	47	172	287	0	842	0	0	0	0	0
	8:00 AM	26	0	106	0	0	0	0	206	33	121	229	0	721	0	0	0	0	0
	8:15 AM	25	0	92	0	0	0	0	180	42	180	281	0	800	0	0	0	0	0
	8:30 AM	39	0	101	0	0	0	0	176	39	147	233	0	735	0	0	0	0	0
	8:45 AM	32	0	95	0	0	0	0	173	36	150	217	0	703	0	0	0	0	0
	VOLUMES	204	0	781	0	0	0	0	1,591	295	1,180	1,927	0	5,978	0	0	0	0	0
	APPROACH %	21%	0%	79%	0%	0%	0%	0%	84%	16%	38%	62%	0%						
	APP/DEPART	985	/	0	0	/	1,475	1,886	/	2,372	3,107	/	2,131	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	98	0	387	0	0	0	0	805	157	617	1,060	0	3,124					
	APPROACH %	20%	0%	80%	0%	0%	0%	0%	84%	16%	37%	63%	0%						
	PEAK HR FACTOR		0.919			0.000			0.901			0.909		0.928					
	APP/DEPART	485	/	0	0	/	774	962	/	1,192	1,677	/	1,158	0					
PM	4:00 PM	27	0	161	0	0	0	0	228	22	81	249	0	768	0	0	0	0	0
	4:15 PM	34	0	161	0	0	0	0	221	24	99	234	0	773	0	0	0	0	0
	4:30 PM	43	0	168	0	0	0	0	275	21	92	243	0	842	0	0	0	0	0
	4:45 PM	45	0	164	0	0	0	0	252	28	115	277	0	881	0	0	0	0	0
	5:00 PM	43	0	163	0	0	0	0	280	27	72	234	0	819	0	0	0	0	0
	5:15 PM	32	0	172	0	0	0	0	245	27	113	257	0	846	0	0	0	0	0
	5:30 PM	39	0	189	0	0	0	0	285	30	99	201	0	843	0	0	0	0	0
	5:45 PM	31	0	138	0	0	0	0	227	24	101	226	0	747	0	0	0	0	0
	VOLUMES	294	0	1,316	0	0	0	0	2,013	203	772	1,921	0	6,519	0	0	0	0	0
	APPROACH %	18%	0%	82%	0%	0%	0%	0%	91%	9%	29%	71%	0%						
	APP/DEPART	1,610	/	0	0	/	975	2,216	/	3,329	2,693	/	2,215	0					
	BEGIN PEAK HR		4:45 PM																
	VOLUMES	159	0	688	0	0	0	0	1,062	112	399	969	0	3,389					
	APPROACH %	19%	0%	81%	0%	0%	0%	0%	90%	10%	29%	71%	0%						
	PEAK HR FACTOR		0.929			0.000			0.932			0.872		0.962					
	APP/DEPART	847	/	0	0	/	511	1,174	/	1,750	1,368	/	1,128	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	7:30 AM	1	1	0	0	2	0	1	0	0	1	1	0	0	0	1
	7:45 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	TOTAL	1	3	0	1	5	0	2	0	1	3	1	1	0	0	2
	AM BEGIN PEAK HR			7:30 AM			0	1	0	1	2					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	1	2	0	0	0	1	1	0	1	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	5:00 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	5:15 PM	1	0	0	1	2	0	0	0	0	0	1	0	0	1	2
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	2	2	0	2	6	0	0	0	1	1	2	2	0	1	5
	PM BEGIN PEAK HR			4:45 PM			0	0	0	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

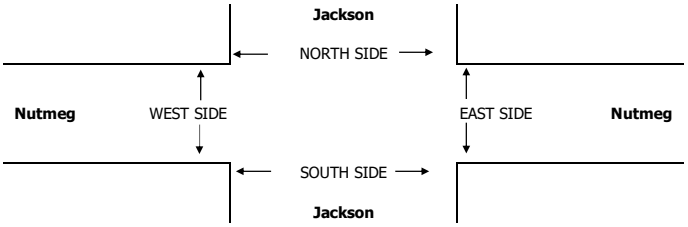
DATE:	LOCATION:	Wildomar	PROJECT #:	SC3221
Wed, Dec 15, 21	NORTH & SOUTH:	Jackson	LOCATION #:	5
	EAST & WEST:	Nutmeg	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Jackson			SOUTHBOUND Jackson			EASTBOUND Nutmeg			WESTBOUND Nutmeg				U-TURNS				
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	6	12	17	11	37	20	16	72	16	63	162	15	447	0	0	0	0	0
	7:15 AM	10	18	25	13	44	13	10	73	20	37	84	12	359	0	0	0	0	0
	7:30 AM	16	40	31	18	46	8	17	92	27	47	58	14	414	0	0	0	0	0
	7:45 AM	18	22	19	19	65	14	12	74	43	91	75	15	467	0	0	0	0	0
	8:00 AM	16	31	46	37	47	21	5	70	25	50	93	21	462	0	0	0	0	0
	8:15 AM	22	29	30	29	64	14	12	64	43	61	104	30	502	0	0	0	0	0
	8:30 AM	27	43	26	14	49	10	9	59	19	46	89	12	403	0	0	0	0	0
	8:45 AM	25	38	14	11	40	9	21	66	23	46	58	16	367	0	0	0	0	0
	VOLUMES	140	233	208	152	392	109	102	570	216	441	723	135	3,421	0	0	0	0	0
	APPROACH %	24%	40%	36%	23%	60%	17%	11%	64%	24%	34%	56%	10%						
	APP/DEPART	581	/	470	653	/	1,049	888	/	930	1,299	/	972	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	72	122	126	103	222	57	46	300	138	249	330	80	1,845					
	APPROACH %	23%	38%	39%	27%	58%	15%	10%	62%	29%	38%	50%	12%						
	PEAK HR FACTOR		0.860			0.893			0.890			0.845		0.919					
	APP/DEPART	320	/	248	382	/	609	484	/	529	659	/	459	0					
PM	4:00 PM	31	54	43	31	37	8	14	53	20	37	64	27	419	0	0	0	0	0
	4:15 PM	27	54	35	15	51	12	9	62	17	30	54	15	381	0	0	0	0	0
	4:30 PM	25	56	51	36	45	9	12	51	20	37	53	12	407	0	0	0	0	0
	4:45 PM	36	44	56	33	39	17	7	54	28	33	75	18	440	0	1	0	0	1
	5:00 PM	23	49	41	24	75	9	10	48	18	24	69	22	412	0	0	0	0	0
	5:15 PM	23	65	44	17	49	7	7	59	17	32	64	17	401	0	0	0	0	0
	5:30 PM	22	47	46	20	38	18	16	62	17	27	56	14	383	0	0	0	0	0
	5:45 PM	33	57	38	16	56	5	6	41	22	28	70	21	393	0	0	0	0	0
	VOLUMES	220	426	354	192	390	85	81	430	159	248	505	146	3,236	0	1	0	0	1
	APPROACH %	22%	43%	35%	29%	58%	13%	12%	64%	24%	28%	56%	16%						
	APP/DEPART	1,000	/	654	667	/	797	670	/	975	899	/	810	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	107	214	192	110	208	42	36	212	83	126	261	69	1,660					
	APPROACH %	21%	42%	37%	31%	58%	12%	11%	64%	25%	28%	57%	15%						
	PEAK HR FACTOR		0.943			0.833			0.930			0.905		0.943					
	APP/DEPART	513	/	320	360	/	417	331	/	513	456	/	410	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	2	0	1	3	0	0	0	1	1	0	2	0	0	2
	7:15 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	7:30 AM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
	7:45 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	8:00 AM	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1
	8:15 AM	1	3	2	3	9	1	2	2	2	7	0	1	0	1	2
	8:30 AM	1	3	1	1	6	1	3	1	1	6	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	7	8	3	6	24	5	5	3	5	18	2	3	0	1	6
	AM BEGIN PEAK HR	7:30 AM					4	2	2	2	10					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	3	0	2	5	0	1	0	2	3	0	2	0	0	2
	4:45 PM	2	2	1	0	5	1	2	1	0	4	1	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	1	0	0	1	2	1	0	0	0	1	0	0	0	1	1
	5:30 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	3	5	1	4	13	2	3	1	3	9	1	2	0	1	4
	PM BEGIN PEAK HR	4:30 PM					2	3	1	2	8					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

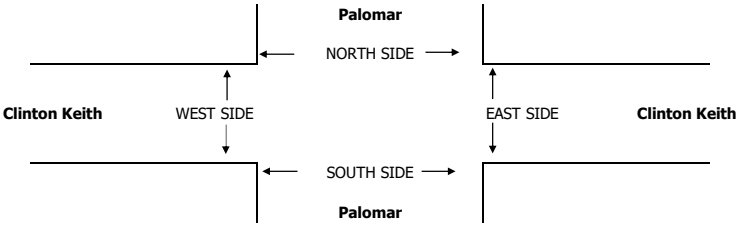
DATE:	LOCATION:	Wildomar	PROJECT #:	SC3221
Wed, Dec 15, 21	NORTH & SOUTH:	Palomar	LOCATION #:	6
	EAST & WEST:	Clinton Keith	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Palomar			SOUTHBOUND Palomar			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 1	SR 1	EL 1	ET 2	ER 0	WL 1	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	9	37	42	53	66	12	5	149	35	72	83	24	587	0	0	1	1	2
	7:15 AM	5	39	70	39	34	5	5	146	15	55	67	31	511	0	0	0	1	1
	7:30 AM	17	53	106	55	54	9	7	161	17	59	90	16	644	0	0	0	2	2
	7:45 AM	6	36	99	46	74	8	4	141	33	82	101	26	656	0	0	0	3	3
	8:00 AM	13	46	89	52	103	19	9	146	24	69	120	33	723	0	0	0	3	3
	8:15 AM	18	51	95	42	50	12	13	182	32	71	105	32	703	0	0	0	5	5
	8:30 AM	18	43	77	45	41	8	14	145	15	39	88	25	558	1	0	0	3	4
	8:45 AM	7	32	68	40	35	5	10	141	17	48	89	36	528	0	0	0	5	5
	VOLUMES	93	337	646	372	457	78	67	1,211	188	495	743	223	4,910	1	0	1	23	25
	APPROACH %	9%	31%	60%	41%	50%	9%	5%	83%	13%	34%	51%	15%						
	APP/DEPART	1,076	/	626	907	/	1,118	1,466	/	2,252	1,461	/	914	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	54	186	389	195	281	48	33	630	106	281	416	107	2,726					
	APPROACH %	9%	30%	62%	37%	54%	9%	4%	82%	14%	35%	52%	13%						
	PEAK HR FACTOR		0.893			0.753			0.847			0.905		0.943					
	APP/DEPART	629	/	326	524	/	655	769	/	1,227	804	/	518	0					
PM	4:00 PM	27	56	74	39	26	10	10	142	23	51	143	50	651	0	0	1	8	9
	4:15 PM	25	69	49	52	38	4	10	178	20	66	140	48	699	0	0	0	6	6
	4:30 PM	16	75	67	45	33	11	8	169	21	65	157	55	722	0	0	0	13	13
	4:45 PM	24	63	66	53	21	11	17	159	18	57	149	50	688	0	0	0	8	8
	5:00 PM	15	65	73	48	25	9	17	175	13	65	148	57	710	0	0	0	10	10
	5:15 PM	14	64	52	41	29	6	10	189	14	70	168	65	722	0	0	0	7	7
	5:30 PM	18	64	46	42	14	7	8	153	19	57	155	45	628	0	0	0	5	5
	5:45 PM	14	61	56	45	25	9	11	121	8	58	129	45	582	0	0	0	9	9
	VOLUMES	153	517	483	365	211	67	91	1,286	136	489	1,189	415	5,402	0	0	1	66	67
	APPROACH %	13%	45%	42%	57%	33%	10%	6%	85%	9%	23%	57%	20%						
	APP/DEPART	1,153	/	1,022	643	/	770	1,513	/	2,200	2,093	/	1,410	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	69	267	258	187	108	37	52	692	66	257	622	227	2,842					
	APPROACH %	12%	45%	43%	56%	33%	11%	6%	85%	8%	23%	56%	21%						
	PEAK HR FACTOR		0.940			0.933			0.951			0.913		0.984					
	APP/DEPART	594	/	546	332	/	393	810	/	1,175	1,106	/	728	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	5	0	0	5	0	5	0	0	5	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	2	1	2	5	0	2	0	2	4	0	0	1	0	1
	8:15 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	8:30 AM	1	1	1	1	4	1	1	1	1	4	0	0	0	0	0
	8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	TOTAL	1	8	4	4	17	1	8	2	4	15	0	0	2	0	2
	AM BEGIN PEAK HR			7:30 AM			0	7	1	2	10					
PM	4:00 PM	1	0	2	0	3	1	0	1	0	2	0	0	1	0	1
	4:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	5:00 PM	1	0	1	0	2	1	0	1	0	2	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	2	0	5	1	8	2	0	2	0	4	0	0	3	1	4
	PM BEGIN PEAK HR			4:30 PM			1	0	1	0	2					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

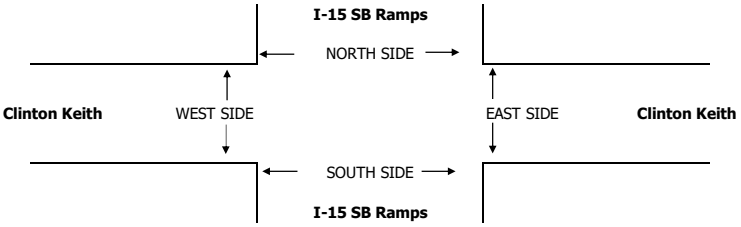
DATE:	LOCATION:	Wildomar	PROJECT #:	SC3221
Wed, Dec 15, 21	NORTH & SOUTH:	I-15 SB Ramps	LOCATION #:	7
	EAST & WEST:	Clinton Keith	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND I-15 SB Ramps			SOUTHBOUND I-15 SB Ramps			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 1.5	ST 0.5	SR 2	EL X	ET 3	ER 1	WL 2	WT 3	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	94	0	85	0	187	117	48	128	0	659	0	0	0	0	0
	7:15 AM	0	0	0	79	1	74	0	183	138	76	106	0	657	0	0	0	0	0
	7:30 AM	0	0	0	83	0	94	0	205	153	69	152	0	756	0	0	0	0	0
	7:45 AM	0	0	0	121	1	109	0	207	168	87	212	0	905	0	0	0	0	0
	8:00 AM	0	0	0	89	0	111	0	208	156	56	191	0	811	0	0	0	0	0
	8:15 AM	0	0	0	110	3	81	0	213	171	66	183	0	827	0	0	0	0	0
	8:30 AM	0	0	0	81	1	56	0	197	158	72	168	0	733	0	0	0	0	0
	8:45 AM	0	0	0	102	0	71	0	169	152	76	172	0	742	0	0	0	1	1
	VOLUMES	0	0	0	759	6	681	0	1,569	1,213	550	1,312	0	6,090	0	0	0	1	1
	APPROACH %	0%	0%	0%	52%	0%	47%	0%	56%	44%	30%	70%	0%						
	APP/DEPART	0	/	0	1,446	/	1,768	2,782	/	2,329	1,862	/	1,993	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	0	0	403	4	395	0	833	648	278	738	0	3,299					
	APPROACH %	0%	0%	0%	50%	0%	49%	0%	56%	44%	27%	73%	0%						
	PEAK HR FACTOR		0.000			0.868			0.964			0.849		0.911					
	APP/DEPART	0	/	0	802	/	930	1,481	/	1,236	1,016	/	1,133	0					
PM	4:00 PM	0	0	0	103	1	103	0	211	125	69	267	0	879	0	0	0	0	0
	4:15 PM	0	0	0	123	2	95	0	242	136	74	275	0	947	0	0	0	0	0
	4:30 PM	0	0	0	115	1	100	0	236	139	67	293	0	951	0	0	0	0	0
	4:45 PM	0	0	0	139	1	91	0	244	135	52	285	0	947	0	0	0	0	0
	5:00 PM	0	0	0	116	3	111	0	225	133	72	304	0	964	0	0	0	0	0
	5:15 PM	0	0	0	144	1	97	0	228	113	70	296	0	949	0	0	0	0	0
	5:30 PM	0	0	0	130	0	86	0	246	114	45	259	0	880	0	0	0	0	0
	5:45 PM	0	0	0	137	1	102	0	233	109	49	268	0	899	0	0	0	0	0
	VOLUMES	0	0	0	1,007	10	785	0	1,865	1,004	498	2,247	0	7,416	0	0	0	0	0
	APPROACH %	0%	0%	0%	56%	1%	44%	0%	65%	35%	18%	82%	0%						
	APP/DEPART	0	/	0	1,802	/	1,512	2,869	/	2,872	2,745	/	3,032	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	0	0	0	514	6	399	0	933	520	261	1,178	0	3,811					
	APPROACH %	0%	0%	0%	56%	1%	43%	0%	64%	36%	18%	82%	0%						
	PEAK HR FACTOR		0.000			0.949			0.958			0.957		0.988					
	APP/DEPART	0	/	0	919	/	787	1,453	/	1,447	1,439	/	1,577	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	AM BEGIN PEAK HR			7:30 AM			0	0	0	0	0					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	1	1	0	0	2	0	0	0	0	0	1	1	0	0	2
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	TOTAL	1	3	0	0	4	0	1	0	0	1	1	2	0	0	3
	PM BEGIN PEAK HR			4:30 PM			0	0	0	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Dec 15, 21

LOCATION: Wildomar
NORTH & SOUTH: I-15 NB Ramps
EAST & WEST: Clinton Keith

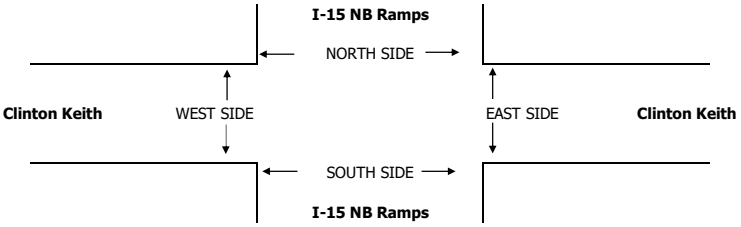
PROJECT #: SC3221
LOCATION #: 8
CONTROL: SIGNAL

NOTES:

AM PM MD OTHER OTHER — ▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND I-15 NB Ramps			SOUTHBOUND I-15 NB Ramps			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 1.3	NT 0.3	NR 1.3	SL X	ST X	SR X	EL 2	ET 3	ER X	WL X	WT 3	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	45	0	35	0	0	0	68	212	0	0	132	130	622	0	0	0	0	0
	7:15 AM	49	1	52	0	0	0	100	161	0	0	134	156	653	0	0	0	0	0
	7:30 AM	53	1	61	0	0	0	103	185	0	0	168	166	737	0	0	0	0	0
	7:45 AM	84	0	56	0	0	0	87	240	0	0	216	172	855	0	0	0	0	0
	8:00 AM	68	0	71	0	0	0	93	203	0	0	180	116	731	0	0	0	0	0
	8:15 AM	72	0	73	0	0	0	91	231	0	0	177	127	771	0	0	0	0	0
	8:30 AM	82	0	51	0	0	0	88	190	0	0	158	116	685	0	0	0	0	0
	8:45 AM	71	0	59	0	0	0	79	193	0	0	178	124	704	0	0	0	0	0
	VOLUMES	524	2	458	0	0	0	709	1,615	0	0	1,343	1,107	5,758	0	0	0	0	0
	APPROACH %	53%	0%	47%	0%	0%	0%	31%	69%	0%	0%	55%	45%						
	APP/DEPART	984	/	1,818	0	/	0	2,324	/	2,073	2,450	/	1,867	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	277	1	261	0	0	0	374	859	0	0	741	581	3,094					
	APPROACH %	51%	0%	48%	0%	0%	0%	30%	70%	0%	0%	56%	44%						
	PEAK HR FACTOR		0.929			0.000			0.943			0.852		0.905					
	APP/DEPART	539	/	956	0	/	0	1,233	/	1,120	1,322	/	1,018	0					
PM	4:00 PM	135	0	77	0	0	0	85	229	0	0	202	137	865	0	0	0	0	0
	4:15 PM	146	0	111	0	0	0	99	266	0	0	204	124	950	0	0	0	0	0
	4:30 PM	143	0	103	0	0	0	96	254	0	0	217	171	984	0	0	0	0	0
	4:45 PM	132	0	91	0	0	0	90	293	0	0	205	138	949	0	0	1	0	1
	5:00 PM	139	0	89	0	0	0	83	258	0	0	237	165	971	0	0	0	0	0
	5:15 PM	147	0	87	0	0	0	78	293	0	0	220	140	965	0	0	0	0	0
	5:30 PM	130	0	97	0	0	0	84	292	0	0	174	136	913	0	0	0	0	0
	5:45 PM	146	0	100	0	0	0	86	284	0	0	172	127	915	0	0	0	0	0
	VOLUMES	1,118	0	755	0	0	0	701	2,169	0	0	1,631	1,138	7,512	0	0	1	0	1
	APPROACH %	60%	0%	40%	0%	0%	0%	24%	76%	0%	0%	59%	41%						
	APP/DEPART	1,873	/	1,838	0	/	0	2,870	/	2,924	2,769	/	2,750	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	561	0	370	0	0	0	347	1,098	0	0	879	614	3,869					
	APPROACH %	60%	0%	40%	0%	0%	0%	24%	76%	0%	0%	59%	41%						
	PEAK HR FACTOR		0.946			0.000			0.943			0.928		0.983					
	APP/DEPART	931	/	960	0	/	0	1,445	/	1,468	1,493	/	1,441	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	AM BEGIN PEAK HR			7:30 AM			1	0	0	0	1					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	1	1	0	0	2	0	0	0	0	0	1	1	0	0	2
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	TOTAL	1	3	0	0	4	0	1	0	0	1	1	2	0	0	3
	PM BEGIN PEAK HR			4:30 PM			0	0	0	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

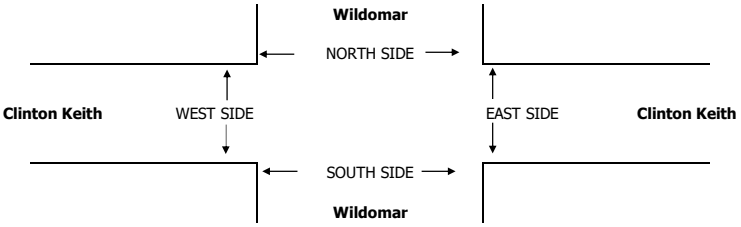
DATE:	LOCATION:	Wildomar	PROJECT #:	SC3221
Wed, Dec 15, 21	NORTH & SOUTH:	Wildomar	LOCATION #:	9
	EAST & WEST:	Clinton Keith	CONTROL:	SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Wildomar			SOUTHBOUND Wildomar			EASTBOUND Clinton Keith			WESTBOUND Clinton Keith				U-TURNS				
	LANES:	NL 1	NT 0.5	NR 0.5	SL 1	ST 1	SR 1	EL 1	ET 2.5	ER 0.5	WL 1	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	11	3	7	31	5	35	19	171	4	8	183	3	480	0	0	0	0	0
	7:15 AM	14	3	6	16	1	37	30	133	7	4	213	8	472	0	0	0	3	3
	7:30 AM	17	8	7	17	6	39	50	175	4	7	262	15	607	0	0	0	1	1
	7:45 AM	17	6	13	30	9	86	32	214	8	17	257	17	706	0	0	0	2	2
	8:00 AM	5	5	7	34	9	56	22	183	3	15	193	6	538	0	0	0	3	3
	8:15 AM	9	1	9	24	4	23	31	222	7	14	234	8	586	0	0	0	1	1
	8:30 AM	12	3	7	22	2	42	28	149	4	13	178	7	467	0	0	0	1	1
	8:45 AM	11	2	7	13	4	25	16	176	7	18	230	8	517	0	0	0	3	3
	VOLUMES	96	31	63	187	40	343	228	1,423	44	96	1,750	72	4,373	0	0	0	14	14
	APPROACH %	51%	16%	33%	33%	7%	60%	13%	84%	3%	5%	91%	4%						
	APP/DEPART	190	/	331	570	/	166	1,695	/	1,687	1,918	/	2,189	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	48	20	36	105	28	204	135	794	22	53	946	46	2,437					
	APPROACH %	46%	19%	35%	31%	8%	61%	14%	83%	2%	5%	91%	4%						
	PEAK HR FACTOR		0.722			0.674			0.914			0.898		0.863					
	APP/DEPART	104	/	201	337	/	96	951	/	942	1,045	/	1,198	0					
PM	4:00 PM	13	9	17	12	10	29	34	225	4	29	241	7	630	0	0	0	4	4
	4:15 PM	14	9	21	26	12	33	48	258	9	24	234	21	709	0	0	0	1	1
	4:30 PM	15	4	17	17	7	32	48	257	7	29	273	18	724	0	0	0	1	1
	4:45 PM	14	6	19	24	12	28	45	263	5	28	255	19	718	0	0	0	4	4
	5:00 PM	11	9	16	23	9	35	48	221	4	29	294	12	711	0	0	0	5	5
	5:15 PM	14	8	16	19	4	37	41	299	5	34	237	11	725	0	0	0	6	6
	5:30 PM	22	8	21	18	8	26	49	264	11	20	201	23	671	0	0	1	4	5
	5:45 PM	15	8	20	13	6	25	49	270	7	27	172	15	627	0	0	1	4	5
	VOLUMES	118	61	147	152	68	245	362	2,057	52	220	1,907	126	5,515	0	0	2	29	31
	APPROACH %	36%	19%	45%	33%	15%	53%	15%	83%	2%	10%	85%	6%						
	APP/DEPART	326	/	547	465	/	311	2,471	/	2,385	2,253	/	2,272	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	54	27	68	83	32	132	182	1,040	21	120	1,059	60	2,878					
	APPROACH %	36%	18%	46%	34%	13%	53%	15%	84%	2%	10%	85%	5%						
	PEAK HR FACTOR		0.955			0.922			0.901			0.925		0.992					
	APP/DEPART	149	/	269	247	/	157	1,243	/	1,207	1,239	/	1,245	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	3	0	3	0	6	3	0	3	0	6	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	2	0	2	0	4	2	0	2	0	4	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	TOTAL	5	1	5	1	12	5	1	5	1	12	0	0	0	0	0
	AM BEGIN PEAK HR			7:30 AM			5	0	5	0	10					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	3	0	2	5	0	1	0	1	2	0	2	0	1	3
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	TOTAL	0	5	0	2	7	0	2	0	1	3	0	3	0	1	4
	PM BEGIN PEAK HR			4:30 PM			0	1	0	1	2					

APPENDIX C – LEVEL OF SERVICE CALCULATIONS

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Existing AM.pdf

Scenario 11 Existing AM
5/9/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Clinton Keith Rd/Wildomar Trl	Signalized	HCM 6th Edition	WB Left	0.522	23.6	C
2	Inland Valley Dr/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.661	25.5	C
3	Nutmeg St/Clinton Keith Rd	Signalized	HCM 6th Edition	EB Left	0.595	23.2	C
4	California Oaks Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.768	30.1	C
5	Nutmeg St/Jackson Ave	Signalized	HCM 6th Edition	SB Left	0.442	31.2	C
6	Palomar Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	SB Left	0.746	46.2	D
7	I-15 SB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.543	18.8	B
8	I-15 NB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	EB Left	0.537	16.1	B
9	Clinton Keith Rd/Arya Rd	Signalized	HCM 6th Edition	EB Left	0.503	37.7	D
10	Arya Rd/Catt Rd	All-way stop	HCM 6th Edition	NB Left	0.139	7.6	A
11	Wildomar Trl/Proj Dwy 3	Two-way stop	HCM 6th Edition	SB Thru	0.004	0.0	A
12	Wildomar Trl/Proj Dwy 4	Two-way stop	HCM 6th Edition	SB Thru	0.004	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Clinton Keith Rd/Wildomar Trl

Control Type:	Signalized	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	95.00	100.00	100.00	165.00	100.00	100.00	330.00	100.00	255.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	48	20	36	105	28	204	135	794	22	53	946	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	51	0	0	6	0	0	12
Total Hourly Volume [veh/h]	48	20	27	105	28	153	135	794	16	53	946	34
Peak Hour Factor	0.7222	0.7222	0.7222	0.6740	0.6740	0.6740	0.9144	0.9144	0.9144	0.8978	0.8978	0.8978
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	7	9	39	10	57	37	217	4	15	263	9
Total Analysis Volume [veh/h]	66	28	37	156	42	227	148	868	17	59	1054	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	43	0	0	43	0	23	41	0	41	59	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	33	0	0	19	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	24	24	24	12	84	84	5	77	77
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.10	0.67	0.67	0.04	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.12	0.02	0.14	0.08	0.16	0.16	0.03	0.30	0.02
s, saturation flow rate [veh/h]	1110	1699	1336	1870	1589	1781	3560	1852	1781	3560	1589
c, Capacity [veh/h]	226	321	242	354	301	175	2391	1243	77	2195	980
d1, Uniform Delay [s]	47.78	42.74	52.53	42.05	47.95	55.41	8.06	8.06	59.15	13.06	9.42
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	0.31	2.84	0.15	3.86	10.48	0.24	0.47	14.30	0.75	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.29	0.20	0.64	0.12	0.76	0.84	0.24	0.24	0.76	0.48	0.04
d, Delay for Lane Group [s/veh]	48.49	43.04	55.38	42.19	51.81	65.89	8.30	8.53	73.45	13.81	9.49
Lane Group LOS	D	D	E	D	D	E	A	A	E	B	A
Critical Lane Group	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.91	1.74	4.97	1.10	7.02	5.10	3.04	3.24	2.16	8.03	0.43
50th-Percentile Queue Length [ft/ln]	47.72	43.40	124.19	27.52	175.43	127.45	76.03	81.08	53.95	200.82	10.65
95th-Percentile Queue Length [veh/ln]	3.44	3.12	8.62	1.98	11.36	8.80	5.47	5.84	3.88	12.68	0.77
95th-Percentile Queue Length [ft/ln]	85.89	78.12	215.57	49.53	284.04	220.02	136.85	145.95	97.11	317.02	19.17

Movement, Approach, & Intersection Results

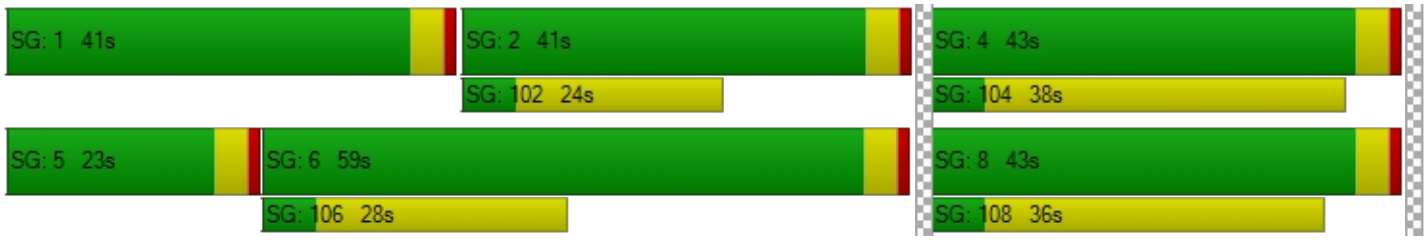
d_M, Delay for Movement [s/veh]	48.49	43.04	43.04	55.38	42.19	51.81	65.89	8.38	8.53	73.45	13.81	9.49
Movement LOS	D	D	D	E	D	D	E	A	A	E	B	A
d_A, Approach Delay [s/veh]	45.79			52.17			16.62			16.72		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.57											
Intersection LOS	C											
Intersection V/C	0.522											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.82	53.82	53.82	53.82
l_p,int, Pedestrian LOS Score for Intersection	2.056	2.392	2.968	3.161
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	624	624	592	880
d_b, Bicycle Delay [s]	29.58	29.58	30.98	19.60
l_b,int, Bicycle LOS Score for Intersection	1.791	2.345	2.131	2.519
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Inland Valley Dr/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	25.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

Intersection Setup

Name							
Approach	Northbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	U-turn	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1	0
Entry Pocket Length [ft]	100.00	185.00	300.00	100.00	100.00	225.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	147.11
Speed [mph]	30.00		30.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		Yes			Yes	

Volumes

Name							
Base Volume Input [veh/h]	252	29	0	537	409	103	809
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	7	0	0	102	0	0
Total Hourly Volume [veh/h]	252	22	0	537	307	103	809
Peak Hour Factor	0.8464	0.8464	0.9198	0.9198	0.9198	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	6	0	146	83	28	222
Total Analysis Volume [veh/h]	298	26	0	584	334	113	889
Presence of On-Street Parking	Yes	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	5	2	0	1	6
Auxiliary Signal Groups							
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	0	5	10	0	5	10
Maximum Green [s]	30	0	30	30	0	30	30
Amber [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	45	0	9	44	0	61	96
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	0	5	0	0	5
Pedestrian Clearance [s]	21	0	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No	No		No	No
Maximum Recall	No		No	No		No	No
Pedestrian Recall	No		No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	R	L	C
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30	0	96	96	12	108
g / C, Green / Cycle	0.20	0.20	0.00	0.64	0.64	0.08	0.72
(v / s)_i Volume / Saturation Flow Rate	0.19	0.02	0.00	0.16	0.21	0.06	0.48
s, saturation flow rate [veh/h]	1603	1589	1781	3560	1589	1781	1870
c, Capacity [veh/h]	321	318	0	2287	1021	138	1346
d1, Uniform Delay [s]	58.94	48.78	0.00	11.48	12.15	68.15	11.23
k, delay calibration	0.22	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.18	0.11	0.00	0.27	0.85	11.17	2.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.08	0.00	0.26	0.33	0.82	0.66
d, Delay for Lane Group [s/veh]	79.12	48.89	0.00	11.75	13.00	79.32	13.79
Lane Group LOS	E	D	A	B	B	E	B
Critical Lane Group	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	12.94	0.81	0.00	4.28	5.32	4.72	15.85
50th-Percentile Queue Length [ft/ln]	323.55	20.36	0.00	106.96	132.95	118.00	396.35
95th-Percentile Queue Length [veh/ln]	18.84	1.47	0.00	7.67	9.10	8.28	22.38
95th-Percentile Queue Length [ft/ln]	471.05	36.64	0.00	191.76	227.50	207.07	559.61

Movement, Approach, & Intersection Results

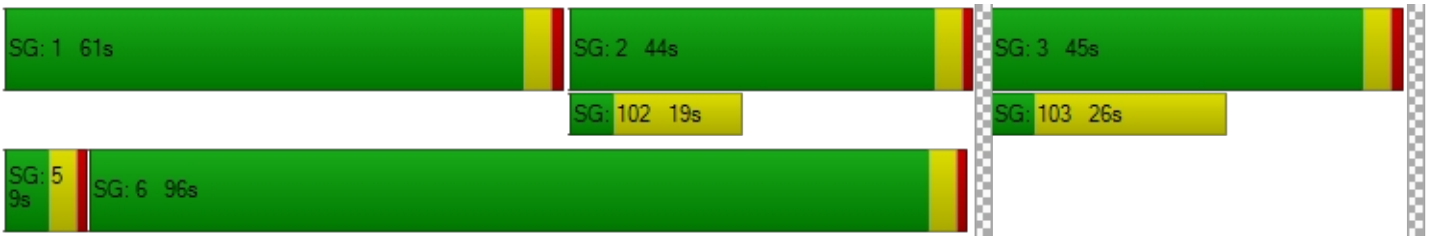
d_M, Delay for Movement [s/veh]	79.12	48.89	0.00	11.75	13.00	79.32	13.79
Movement LOS	E	D	A	B	B	E	B
d_A, Approach Delay [s/veh]	76.69		12.20			21.18	
Approach LOS	E		B			C	
d_I, Intersection Delay [s/veh]	25.52						
Intersection LOS	C						
Intersection V/C	0.661						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.27	66.27	66.27
l_p,int, Pedestrian LOS Score for Intersection	2.381	2.982	2.641
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	533	1227
d_b, Bicycle Delay [s]	39.60	40.33	11.21
l_b,int, Bicycle LOS Score for Intersection	1.560	2.401	3.213
Bicycle LOS	A	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Nutmeg St/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	23.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	190.00	100.00	100.00	65.00	100.00	100.00	215.00	100.00	100.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	91	37	317	101	59	30	21	532	112	385	707	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	79	0	0	8	0	0	28	0	0	17
Total Hourly Volume [veh/h]	91	37	238	101	59	22	21	532	84	385	707	51
Peak Hour Factor	0.9349	0.9349	0.9349	0.8962	0.8962	0.8962	0.8396	0.8396	0.8396	0.9295	0.9295	0.9295
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	10	64	28	16	6	6	158	25	104	190	14
Total Analysis Volume [veh/h]	97	40	255	113	66	25	25	634	100	414	761	55
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	3			6			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			6			3		
v_co, Outbound Pedestrian Volume crossing	0			6			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			6		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	31	26	0	24	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	16	16	16	2	32	32	20	50	50
g / C, Green / Cycle	0.19	0.19	0.19	0.19	0.19	0.03	0.41	0.41	0.25	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.07	0.02	0.16	0.10	0.05	0.01	0.20	0.20	0.23	0.22	0.22
s, saturation flow rate [veh/h]	1296	1870	1582	1081	1771	1781	1870	1782	1781	1870	1818
c, Capacity [veh/h]	255	363	307	255	344	50	759	723	445	1174	1142
d1, Uniform Delay [s]	32.95	26.54	30.94	32.05	27.38	38.34	17.67	17.68	29.31	7.10	7.11
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.17	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.94	0.13	5.75	1.20	0.41	7.70	2.30	2.42	13.02	0.83	0.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.11	0.83	0.44	0.26	0.50	0.49	0.50	0.93	0.35	0.35
d, Delay for Lane Group [s/veh]	33.88	26.67	36.69	33.25	27.79	46.04	19.97	20.10	42.34	7.93	7.97
Lane Group LOS	C	C	D	C	C	D	B	C	D	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.80	0.63	5.05	2.10	1.48	0.58	5.33	5.12	9.04	3.11	3.06
50th-Percentile Queue Length [ft/ln]	44.95	15.69	126.35	52.42	37.00	14.53	133.27	127.97	226.12	77.78	76.40
95th-Percentile Queue Length [veh/ln]	3.24	1.13	8.74	3.77	2.66	1.05	9.12	8.83	13.98	5.60	5.50
95th-Percentile Queue Length [ft/ln]	80.91	28.24	218.53	94.36	66.60	26.15	227.94	220.73	349.43	140.00	137.52

Movement, Approach, & Intersection Results

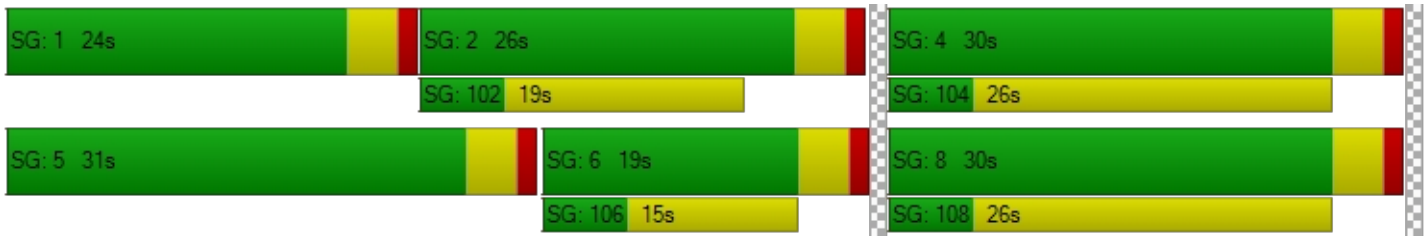
d_M, Delay for Movement [s/veh]	33.88	26.67	36.69	33.25	27.79	27.79	46.04	20.02	20.10	42.34	7.95	7.97
Movement LOS	C	C	D	C	C	C	D	C	C	D	A	A
d_A, Approach Delay [s/veh]	34.97			30.82			20.89			19.53		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	23.16											
Intersection LOS	C											
Intersection V/C	0.595											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
l_p,int, Pedestrian LOS Score for Intersection	2.502	2.061	2.899	3.012
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	650	650	550	375
d_b, Bicycle Delay [s]	18.23	18.23	21.03	26.43
l_b,int, Bicycle LOS Score for Intersection	2.337	1.909	2.209	2.588
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: California Oaks Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.768

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	275.00	100.00	100.00	100.00	255.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	98	387	805	157	617	1060
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	97	0	39	0	0
Total Hourly Volume [veh/h]	98	290	805	118	617	1060
Peak Hour Factor	0.9186	0.9186	0.9007	0.9007	0.9094	0.9094
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	79	223	33	170	291
Total Analysis Volume [veh/h]	107	316	894	131	678	1166
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		1		0	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Split [s]	27	0	29	0	44	73
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	17	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	C	L	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	13	13	36	36	39	79
g / C, Green / Cycle	0.13	0.13	0.13	0.36	0.36	0.39	0.79
(v / s)_i Volume / Saturation Flow Rate	0.06	0.10	0.10	0.27	0.29	0.38	0.33
s, saturation flow rate [veh/h]	1781	1589	1589	1870	1778	1781	3560
c, Capacity [veh/h]	225	201	201	672	639	702	2826
d1, Uniform Delay [s]	40.61	42.38	42.38	28.27	28.84	29.61	3.16
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.43	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.56	6.70	6.70	8.01	10.26	23.97	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.79	0.79	0.76	0.80	0.97	0.41
d, Delay for Lane Group [s/veh]	42.17	49.09	49.09	36.28	39.10	53.58	3.61
Lane Group LOS	D	D	D	D	D	D	A
Critical Lane Group	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.53	4.13	4.13	12.01	12.55	19.94	2.63
50th-Percentile Queue Length [ft/ln]	63.34	103.20	103.20	300.35	313.74	498.41	65.77
95th-Percentile Queue Length [veh/ln]	4.56	7.43	7.43	17.70	18.36	27.26	4.74
95th-Percentile Queue Length [ft/ln]	114.01	185.76	185.76	442.46	458.98	681.47	118.38

Movement, Approach, & Intersection Results

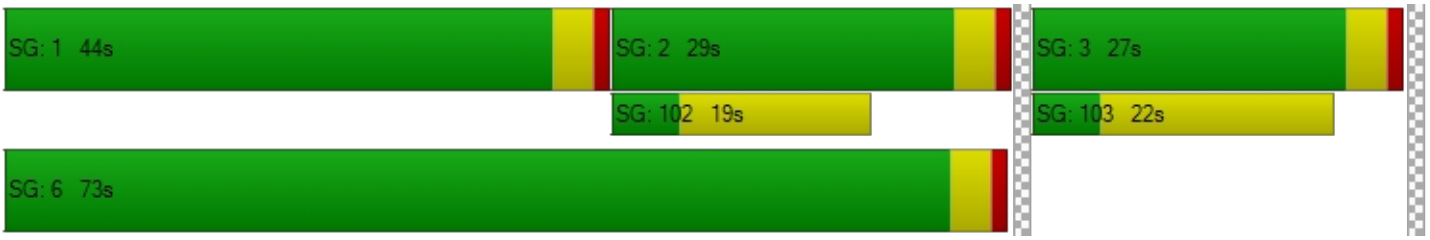
d_M, Delay for Movement [s/veh]	42.17	49.09	37.48	39.10	53.58	3.61
Movement LOS	D	D	D	D	D	A
d_A, Approach Delay [s/veh]	47.34		37.69		21.98	
Approach LOS	D		D		C	
d_I, Intersection Delay [s/veh]	30.13					
Intersection LOS	C					
Intersection V/C	0.768					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	2.609	2.763	2.921
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	460	500	1380
d_b, Bicycle Delay [s]	29.65	28.14	4.81
l_b,int, Bicycle LOS Score for Intersection	2.418	2.437	3.081
Bicycle LOS	B	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Nutmeg St/Jackson Ave

Control Type:	Signalized	Delay (sec / veh):	31.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.442

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	200.00	100.00	100.00	195.00	100.00	100.00	210.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	72	122	126	103	222	57	46	300	138	249	330	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	32	0	0	14	0	0	35	0	0	20
Total Hourly Volume [veh/h]	72	122	94	103	222	43	46	300	103	249	330	60
Peak Hour Factor	0.8600	0.8600	0.8600	0.8930	0.8930	0.8930	0.8900	0.8900	0.8900	0.8450	0.8450	0.8450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	35	27	29	62	12	13	84	29	74	98	18
Total Analysis Volume [veh/h]	84	142	109	115	249	48	52	337	116	295	391	71
Presence of On-Street Parking	No		No	No		No	No		Yes	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			2			2		
v_di, Inbound Pedestrian Volume crossing m	2			2			0			0		
v_co, Outbound Pedestrian Volume crossing	2			4			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			4			2		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			3			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	26	0	10	26	0	21	26	0	18	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	30	30	6	32	32	3	14	14	14	24	24
g / C, Green / Cycle	0.06	0.38	0.38	0.08	0.40	0.40	0.04	0.17	0.17	0.18	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.05	0.08	0.07	0.06	0.08	0.08	0.03	0.13	0.14	0.17	0.13	0.13
s, saturation flow rate [veh/h]	1781	1870	1566	1781	1870	1756	1781	1870	1515	1781	1870	1769
c, Capacity [veh/h]	108	713	597	134	740	695	79	316	256	312	561	530
d1, Uniform Delay [s]	37.05	16.58	16.45	36.59	15.90	15.94	37.65	31.83	31.98	32.63	22.46	22.47
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.38	0.63	0.67	14.62	0.62	0.69	9.12	4.21	5.91	13.97	0.51	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.20	0.18	0.86	0.20	0.21	0.66	0.78	0.81	0.95	0.42	0.42
d, Delay for Lane Group [s/veh]	48.43	17.21	17.12	51.20	16.53	16.62	46.76	36.04	37.89	46.60	22.97	23.01
Lane Group LOS	D	B	B	D	B	B	D	D	D	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.93	1.79	1.38	2.71	1.86	1.81	1.18	4.80	4.14	6.67	3.52	3.35
50th-Percentile Queue Length [ft/ln]	48.18	44.85	34.58	67.87	46.61	45.18	29.58	119.99	103.56	166.80	87.89	83.63
95th-Percentile Queue Length [veh/ln]	3.47	3.23	2.49	4.89	3.36	3.25	2.13	8.39	7.46	10.91	6.33	6.02
95th-Percentile Queue Length [ft/ln]	86.73	80.73	62.24	122.17	83.90	81.33	53.24	209.81	186.41	272.71	158.20	150.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.43	17.21	17.12	51.20	16.57	16.62	46.76	36.53	37.89	46.60	22.98	23.01
Movement LOS	D	B	B	D	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	25.01			26.24			37.90			32.19		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	31.21											
Intersection LOS	C											
Intersection V/C	0.442											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
l_p,int, Pedestrian LOS Score for Intersection	2.548	2.320	2.555	2.591
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	550	550	475
d_b, Bicycle Delay [s]	21.05	21.06	21.04	23.26
l_b,int, Bicycle LOS Score for Intersection	2.165	1.911	2.005	2.201
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Palomar Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	46.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.746

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	27.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	265.00	100.00	100.00	300.00	100.00	190.00	150.00	100.00	105.00	205.00	100.00	205.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	33	630	106	281	416	107	195	281	48	54	186	389
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	27	0	0	27	0	0	12	0	0	97
Total Hourly Volume [veh/h]	33	630	79	281	416	80	195	281	36	54	186	292
Peak Hour Factor	0.8469	0.8490	0.8469	0.9050	0.9050	0.9050	0.7529	0.7529	0.7529	0.8935	0.8935	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	186	23	78	115	22	65	93	12	15	52	78
Total Analysis Volume [veh/h]	39	742	93	310	460	88	259	373	48	60	208	311
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			2			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			1			2		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	7			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	30	0	23	31	0	29	41	0	21	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	19	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	36	36	19	52	52	19	39	39	5	25	25
g / C, Green / Cycle	0.03	0.31	0.31	0.17	0.45	0.45	0.16	0.34	0.34	0.04	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.02	0.23	0.23	0.17	0.13	0.06	0.15	0.20	0.03	0.03	0.06	0.20
s, saturation flow rate [veh/h]	1781	1870	1798	1781	3560	1589	1781	1870	1652	1781	3560	1563
c, Capacity [veh/h]	57	588	566	294	1594	712	290	630	556	79	777	341
d1, Uniform Delay [s]	55.09	34.98	34.98	48.00	20.13	18.56	47.15	31.60	26.05	54.34	37.32	43.69
k, delay calibration	0.11	0.50	0.50	0.21	0.50	0.50	0.13	0.11	0.11	0.11	0.11	0.20
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.59	7.55	7.85	48.69	0.46	0.36	10.65	0.89	0.07	13.78	0.18	15.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.72	0.72	1.05	0.29	0.12	0.89	0.59	0.09	0.76	0.27	0.91
d, Delay for Lane Group [s/veh]	68.68	42.53	42.83	96.69	20.59	18.92	57.80	32.49	26.12	68.12	37.51	59.21
Lane Group LOS	E	D	D	F	C	B	E	C	C	E	D	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.33	11.71	11.31	12.36	3.99	1.44	8.09	8.68	0.91	2.02	2.46	10.01
50th-Percentile Queue Length [ft/ln]	33.33	292.72	282.73	309.07	99.84	36.08	202.24	217.02	22.87	50.49	61.49	250.29
95th-Percentile Queue Length [veh/ln]	2.40	17.32	16.82	18.60	7.19	2.60	12.75	13.51	1.65	3.64	4.43	15.20
95th-Percentile Queue Length [ft/ln]	60.00	433.02	420.61	464.94	179.71	64.95	318.85	337.82	41.16	90.88	110.68	380.01

Movement, Approach, & Intersection Results

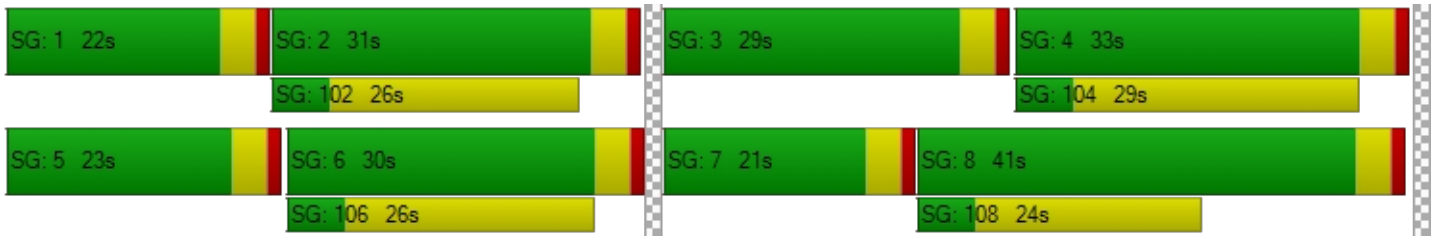
d_M, Delay for Movement [s/veh]	68.68	42.66	42.83	96.69	20.59	18.92	57.80	32.49	26.12	68.12	37.51	59.21
Movement LOS	E	D	D	F	C	B	E	C	C	E	D	E
d_A, Approach Delay [s/veh]	43.84			47.92			41.68			52.34		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	46.16											
Intersection LOS	D											
Intersection V/C	0.746											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.85	48.85	48.85	48.85
l_p,int, Pedestrian LOS Score for Intersection	2.640	2.965	2.536	2.844
Crosswalk LOS	B	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	452	470	643	504
d_b, Bicycle Delay [s]	34.44	33.67	26.45	32.19
l_b,int, Bicycle LOS Score for Intersection	2.303	2.290	2.701	2.117
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 SB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	18.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	2	0	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	685.00	100.00	100.00	290.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	403	4	395	0	833	648	278	738	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	99	0	0	162	0	0	0
Total Hourly Volume [veh/h]	0	0	0	403	4	296	0	833	486	278	738	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8680	0.8680	0.8680	1.0000	0.9640	0.9640	0.8490	0.8490	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	116	1	85	0	216	126	82	217	0
Total Analysis Volume [veh/h]	0	0	0	464	5	341	0	864	504	327	869	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	34	0	0	27	0	9	36	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	18	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	R	L	C
C, Cycle Length [s]		70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		23	23	23	26	26	9	39
g / C, Green / Cycle		0.33	0.33	0.33	0.36	0.36	0.13	0.55
(v / s)_i Volume / Saturation Flow Rate		0.13	0.13	0.12	0.17	0.32	0.09	0.17
s, saturation flow rate [veh/h]		1781	1783	2813	5094	1589	3459	5094
c, Capacity [veh/h]		594	595	938	1859	580	450	2813
d1, Uniform Delay [s]		17.90	17.90	17.69	17.00	20.67	29.25	8.46
k, delay calibration		0.50	0.50	0.50	0.11	0.26	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.96	1.96	1.09	0.18	9.25	2.26	0.06
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.39	0.39	0.36	0.46	0.87	0.73	0.31
d, Delay for Lane Group [s/veh]		19.86	19.86	18.78	17.18	29.92	31.51	8.53
Lane Group LOS		B	B	B	B	C	C	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		3.05	3.05	2.10	3.31	8.47	2.67	2.04
50th-Percentile Queue Length [ft/ln]		76.22	76.25	52.52	82.84	211.84	66.78	51.08
95th-Percentile Queue Length [veh/ln]		5.49	5.49	3.78	5.96	13.25	4.81	3.68
95th-Percentile Queue Length [ft/ln]		137.20	137.25	94.53	149.10	331.19	120.20	91.94

Movement, Approach, & Intersection Results

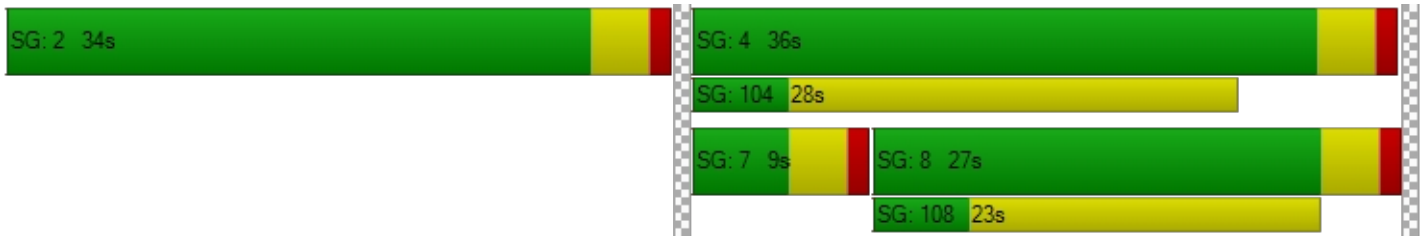
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	19.86	19.86	18.78	0.00	17.18	29.92	31.51	8.53	0.00
Movement LOS				B	B	B		B	C	C	A	
d_A, Approach Delay [s/veh]	0.00			19.40			21.87			14.81		
Approach LOS	A			B			C			B		
d_I, Intersection Delay [s/veh]	18.78											
Intersection LOS	B											
Intersection V/C	0.543											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.190	2.607	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	857	657	914
d_b, Bicycle Delay [s]	35.00	11.43	15.78	10.31
l_b,int, Bicycle LOS Score for Intersection	4.132	3.059	2.401	2.217
Bicycle LOS	D	C	B	B

Sequence

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: I-15 NB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.537

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	685.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	305.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	277	1	261	0	0	0	374	859	0	0	741	581
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	65	0	0	0	0	0	0	0	0	145
Total Hourly Volume [veh/h]	277	1	196	0	0	0	374	859	0	0	741	436
Peak Hour Factor	0.9293	0.9293	0.9293	1.0000	1.0000	1.0000	0.9427	0.9427	1.0000	1.0000	0.8518	0.8518
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	0	53	0	0	0	99	228	0	0	217	128
Total Analysis Volume [veh/h]	298	1	211	0	0	0	397	911	0	0	870	512
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			1		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	17	0	0	0	0	12	43	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	20	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		L	C	C	R
C, Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	17		8	35	23	23
g / C, Green / Cycle	0.29	0.29	0.29		0.13	0.58	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.10		0.11	0.18	0.17	0.32
s, saturation flow rate [veh/h]	1781	1719	1589		3459	5094	5094	1588
c, Capacity [veh/h]	510	492	455		461	2956	1937	604
d1, Uniform Delay [s]	16.98	16.98	16.98		25.46	6.44	13.90	17.00
k, delay calibration	0.50	0.50	0.50		0.11	0.11	0.11	0.19
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.89	1.95	2.11		4.84	0.06	0.16	5.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.35	0.35		0.86	0.31	0.45	0.85
d, Delay for Lane Group [s/veh]	18.86	18.93	19.09		30.30	6.50	14.06	22.81
Lane Group LOS	B	B	B		C	A	B	C
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.05	1.99	1.86		2.90	1.55	2.64	6.62
50th-Percentile Queue Length [ft/ln]	51.21	49.67	46.43		72.56	38.66	66.06	165.47
95th-Percentile Queue Length [veh/ln]	3.69	3.58	3.34		5.22	2.78	4.76	10.84
95th-Percentile Queue Length [ft/ln]	92.18	89.41	83.58		130.62	69.59	118.91	270.95

Movement, Approach, & Intersection Results

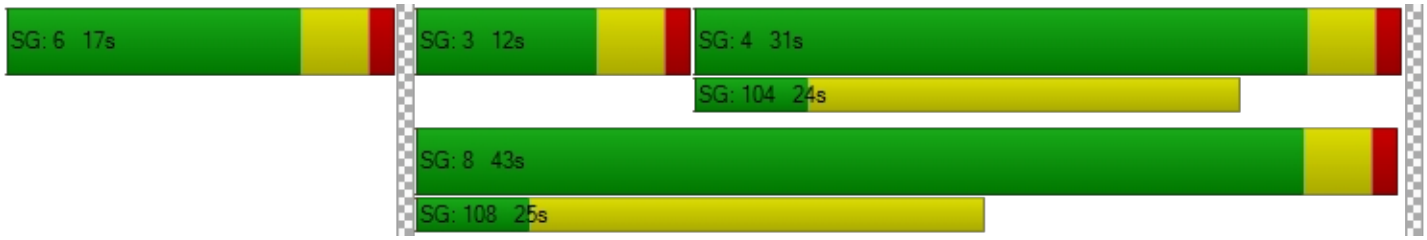
d_M, Delay for Movement [s/veh]	18.89	18.93	19.06	0.00	0.00	0.00	30.30	6.50	0.00	0.00	14.06	22.81
Movement LOS	B	B	B				C	A			B	C
d_A, Approach Delay [s/veh]	18.96			0.00			13.72			17.30		
Approach LOS	B			A			B			B		
d_I, Intersection Delay [s/veh]	16.10											
Intersection LOS	B											
Intersection V/C	0.537											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	6714.04	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.344	2.210	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	0	1300	900
d_b, Bicycle Delay [s]	18.41	30.00	3.68	9.08
l_b,int, Bicycle LOS Score for Intersection	2.508	4.132	2.279	2.399
Bicycle LOS	B	D	B	B

Sequence

Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Clinton Keith Rd/Arya Rd

Control Type:	Signalized	Delay (sec / veh):	37.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.503

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	285.00	100.00	100.00	315.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	160	2	66	10	3	53	63	882	174	90	1069	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	13	0	0	44	0	0	10
Total Hourly Volume [veh/h]	160	2	49	10	3	40	63	882	130	90	1069	29
Peak Hour Factor	0.8507	0.8507	0.8507	0.8684	0.8684	0.8684	0.9024	0.9024	0.9024	0.8366	0.8366	0.8366
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	1	14	3	1	12	17	244	36	27	319	9
Total Analysis Volume [veh/h]	188	2	58	12	3	46	70	977	144	108	1278	35
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			1			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			1			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	0	0	40	0	19	30	0	35	46	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	31	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	58	58	58	5	27	27	8	30	30
g / C, Green / Cycle	0.55	0.55	0.55	0.05	0.26	0.26	0.08	0.28	0.28
(v / s)_i Volume / Saturation Flow Rate	0.22	0.04	0.07	0.04	0.21	0.21	0.06	0.24	0.24
s, saturation flow rate [veh/h]	861	1589	938	1781	3560	1750	1781	3560	1845
c, Capacity [veh/h]	542	874	557	92	917	451	139	1012	524
d1, Uniform Delay [s]	18.66	11.03	13.72	49.17	36.68	36.70	47.49	35.53	35.53
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.78	0.15	0.40	12.32	1.88	3.78	8.87	2.19	4.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.07	0.11	0.76	0.82	0.82	0.78	0.85	0.85
d, Delay for Lane Group [s/veh]	20.44	11.18	14.11	61.49	38.56	40.49	56.37	37.71	39.63
Lane Group LOS	C	B	B	E	D	D	E	D	D
Critical Lane Group	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.71	0.65	0.71	2.12	9.17	9.28	3.10	10.59	11.25
50th-Percentile Queue Length [ft/ln]	92.68	16.28	17.74	52.99	229.25	231.89	77.62	264.63	281.18
95th-Percentile Queue Length [veh/ln]	6.67	1.17	1.28	3.82	14.14	14.27	5.59	15.92	16.75
95th-Percentile Queue Length [ft/ln]	166.82	29.31	31.93	95.39	353.41	356.76	139.71	398.03	418.69

Movement, Approach, & Intersection Results

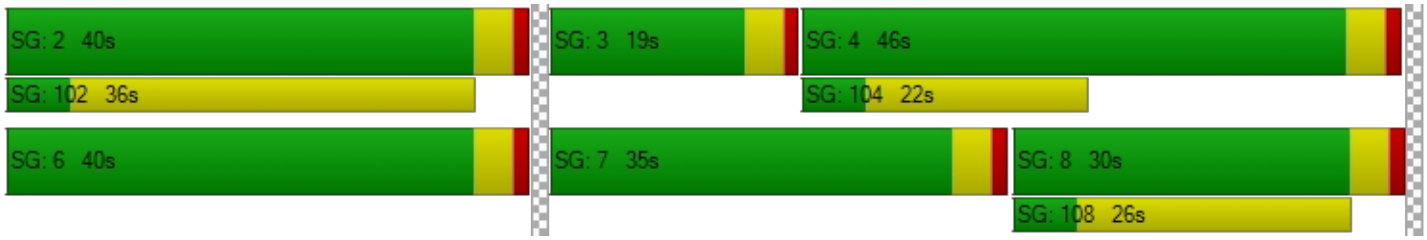
d_M, Delay for Movement [s/veh]	20.44	20.44	11.18	14.11	14.11	14.11	61.49	39.01	40.49	56.37	38.33	39.63
Movement LOS	C	C	B	B	B	B	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	18.27			14.11			40.51			39.74		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	37.69											
Intersection LOS	D											
Intersection V/C	0.503											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	7097.53	0.00
d_p, Pedestrian Delay [s]	43.89	43.89	43.89	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.157	1.835	3.317	0.000
Crosswalk LOS	B	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	686	686	495	800
d_b, Bicycle Delay [s]	22.67	22.67	29.72	18.90
l_b,int, Bicycle LOS Score for Intersection	1.997	1.682	2.239	2.347
Bicycle LOS	A	A	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Arya Rd/Catt Rd

Control Type:	All-way stop	Delay (sec / veh):	7.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.139

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	109	0	0	109	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	0	0	109	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	0	0	29	0	0
Total Analysis Volume [veh/h]	115	0	0	115	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	827	999	836
Degree of Utilization, x	0.14	0.12	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.48	0.39	0.00
95th-Percentile Queue Length [ft]	12.05	9.72	0.00
Approach Delay [s/veh]	8.06	7.07	0.00
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.56		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 11: Wildomar Trl/Proj Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	209	350	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	209	350	0	0	0
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	55	92	0	0	0
Total Analysis Volume [veh/h]	0	220	368	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.31
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.31	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Wildomar Trl/Proj Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	209	350	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	209	350	0	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	55	92	0	0	0
Total Analysis Volume [veh/h]	0	220	368	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.02	0.00	0.00	0.00	12.64	10.31
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.48	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Existing AM.pdf

Scenario 11 Existing AM
5/9/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Clinton Keith Rd/Wildomar Trl	48	20	36	105	28	204	135	794	22	53	946	46	2437

ID	Intersection Name	Northbound		Eastbound			Westbound		Total Volume
		Left	Right	U-T	Thru	Right	Left	Thru	
2	Inland Valley Dr/Clinton Keith Rd	252	29	0	537	409	103	809	2139

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Nutmeg St/Clinton Keith Rd	91	37	317	101	59	30	21	532	112	385	707	68	2460

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
4	California Oaks Rd/Clinton Keith Rd	98	387	805	157	617	1060	3124

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Nutmeg St/Jackson Ave	72	122	126	103	222	57	46	300	138	249	330	80	1845

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Palomar Rd/Clinton Keith Rd	33	630	106	281	416	107	195	281	48	54	186	389	2726

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
7	I-15 SB Ramps/Clinton Keith Rd	403	4	395	833	648	278	738	3299

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
8	I-15 NB Ramps/Clinton Keith Rd	277	1	261	374	859	741	581	3094

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
9	Clinton Keith Rd/Arya Rd	160	2	66	10	3	53	63	882	174	90	1069	39	2611

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
10	Arya Rd/Catt Rd	109	0	0	109	0	0	218

ID	Intersection Name	Northbound	Southbound		Eastbound	Total Volume
		Thru	Thru	Right	Right	
11	Wildomar Trl/Proj Dwy 3	209	350	0	0	559

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
12	Wildomar Trl/Proj Dwy 4	0	209	350	0	0	0	559

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Existing PM.pdf

Scenario 12 Existing PM
5/9/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Clinton Keith Rd/Wildomar Trl	Signalized	HCM 6th Edition	WB Left	0.503	24.0	C
2	Inland Valley Dr/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.755	32.2	C
3	Nutmeg St/Clinton Keith Rd	Signalized	HCM 6th Edition	EB Left	0.582	24.6	C
4	California Oaks Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.773	31.6	C
5	Nutmeg St/Jackson Ave	Signalized	HCM 6th Edition	EB Left	0.362	26.3	C
6	Palomar Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	SB Left	0.613	37.0	D
7	I-15 SB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.489	21.3	C
8	I-15 NB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	EB Left	0.601	19.1	B
9	Clinton Keith Rd/Arya Rd	Signalized	HCM 6th Edition	NB Left	1.186	67.3	E
10	Arya Rd/Catt Rd	All-way stop	HCM 6th Edition	NB Left	0.100	7.3	A
11	Wildomar Trl/Proj Dwy 3	Two-way stop	HCM 6th Edition	NB Thru	0.003	0.0	A
12	Wildomar Trl/Proj Dwy 4	Two-way stop	HCM 6th Edition	NB Thru	0.003	0.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Clinton Keith Rd/Wildomar Trl

Control Type:	Signalized	Delay (sec / veh):	24.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.503

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	95.00	100.00	100.00	165.00	100.00	100.00	330.00	100.00	255.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	54	27	68	83	32	132	182	1040	21	120	1059	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	33	0	0	5	0	0	15
Total Hourly Volume [veh/h]	54	27	51	83	32	99	182	1040	16	120	1059	45
Peak Hour Factor	0.9551	0.9551	0.9551	0.9216	0.9216	0.9216	0.9007	0.9007	0.9007	0.9246	0.9246	0.9246
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	7	13	23	9	27	51	289	4	32	286	12
Total Analysis Volume [veh/h]	57	28	53	90	35	107	202	1155	18	130	1145	49
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	46	0	0	46	0	33	54	0	40	61	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	33	0	0	19	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	21	21	21	21	18	95	95	12	89	89
g / C, Green / Cycle	0.15	0.15	0.15	0.15	0.15	0.13	0.68	0.68	0.09	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.05	0.05	0.07	0.02	0.07	0.11	0.22	0.22	0.07	0.32	0.03
s, saturation flow rate [veh/h]	1246	1676	1317	1870	1589	1781	3560	1855	1781	3560	1589
c, Capacity [veh/h]	192	248	164	277	235	228	2417	1260	156	2272	1014
d1, Uniform Delay [s]	57.76	53.41	62.84	51.80	54.49	60.01	9.21	9.21	62.88	13.50	9.45
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.85	0.76	2.84	0.20	1.37	10.84	0.35	0.67	10.95	0.80	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.33	0.55	0.13	0.46	0.88	0.32	0.32	0.83	0.50	0.05
d, Delay for Lane Group [s/veh]	58.61	54.17	65.69	52.00	55.87	70.85	9.56	9.88	73.83	14.31	9.54
Lane Group LOS	E	D	E	D	E	E	A	A	E	B	A
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.93	2.63	3.29	1.09	3.56	7.76	4.84	5.16	5.05	9.69	0.59
50th-Percentile Queue Length [ft/ln]	48.37	65.69	82.18	27.37	89.03	193.88	121.00	128.90	126.16	242.16	14.76
95th-Percentile Queue Length [veh/ln]	3.48	4.73	5.92	1.97	6.41	12.32	8.45	8.88	8.73	14.79	1.06
95th-Percentile Queue Length [ft/ln]	87.07	118.25	147.92	49.27	160.25	308.05	211.20	222.00	218.26	369.77	26.57

Movement, Approach, & Intersection Results

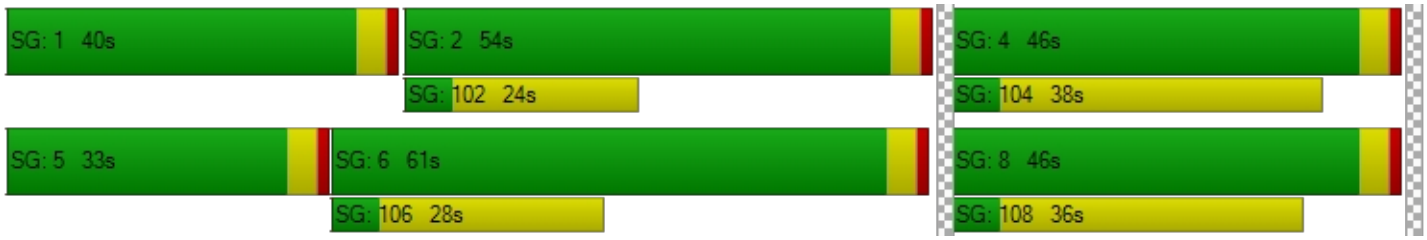
d_M, Delay for Movement [s/veh]	58.61	54.17	54.17	65.69	52.00	55.87	70.85	9.67	9.88	73.83	14.31	9.54
Movement LOS	E	D	D	E	D	E	E	A	A	E	B	A
d_A, Approach Delay [s/veh]	56.00			59.09			18.66			19.97		
Approach LOS	E			E			B			B		
d_I, Intersection Delay [s/veh]	23.96											
Intersection LOS	C											
Intersection V/C	0.503											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	61.29	61.29	61.29	61.29
l_p,int, Pedestrian LOS Score for Intersection	2.098	2.337	3.006	3.135
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	714	814
d_b, Bicycle Delay [s]	34.30	34.30	28.93	24.60
l_b,int, Bicycle LOS Score for Intersection	1.815	1.997	2.319	2.664
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Inland Valley Dr/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	32.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.755

Intersection Setup

Name							
Approach	Northbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	U-turn	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1	0
Entry Pocket Length [ft]	100.00	185.00	300.00	100.00	100.00	225.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	147.11
Speed [mph]	30.00		30.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		Yes			Yes	

Volumes

Name							
Base Volume Input [veh/h]	416	106	0	876	273	20	845
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	27	0	0	68	0	0
Total Hourly Volume [veh/h]	416	79	0	876	205	20	845
Peak Hour Factor	0.8060	0.8060	0.9286	0.9286	0.9286	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	129	25	0	236	55	5	218
Total Analysis Volume [veh/h]	516	98	0	943	221	21	870
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		1			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	5	2	0	1	6
Auxiliary Signal Groups							
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	0	5	10	0	5	10
Maximum Green [s]	30	0	30	30	0	30	30
Amber [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	54	0	9	83	0	13	87
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	0	5	0	0	5
Pedestrian Clearance [s]	21	0	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No	No		No	No
Maximum Recall	No		No	No		No	No
Pedestrian Recall	No		No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	R	L	C
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	46	46	0	90	90	3	92
g / C, Green / Cycle	0.30	0.30	0.00	0.60	0.60	0.02	0.62
(v / s)_i Volume / Saturation Flow Rate	0.29	0.06	0.00	0.26	0.14	0.01	0.47
s, saturation flow rate [veh/h]	1781	1589	1781	3560	1570	1781	1870
c, Capacity [veh/h]	541	483	1	2123	936	36	1152
d1, Uniform Delay [s]	51.21	38.76	0.00	16.62	14.19	72.88	20.69
k, delay calibration	0.37	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	23.89	0.21	0.00	0.68	0.59	14.38	4.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.95	0.20	0.00	0.44	0.24	0.59	0.76
d, Delay for Lane Group [s/veh]	75.10	38.97	0.00	17.30	14.79	87.26	25.33
Lane Group LOS	E	D	A	B	B	F	C
Critical Lane Group	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	22.57	2.76	0.00	9.13	3.73	0.95	22.81
50th-Percentile Queue Length [ft/ln]	564.34	68.92	0.00	228.20	93.19	23.74	570.23
95th-Percentile Queue Length [veh/ln]	30.37	4.96	0.00	14.08	6.71	1.71	30.64
95th-Percentile Queue Length [ft/ln]	759.14	124.06	0.00	352.07	167.75	42.72	766.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	75.10	38.97	0.00	17.30	14.79	87.26	25.33
Movement LOS	E	D	A	B	B	F	C
d_A, Approach Delay [s/veh]	69.33		16.82			26.79	
Approach LOS	E		B			C	
d_I, Intersection Delay [s/veh]	32.23						
Intersection LOS	C						
Intersection V/C	0.755						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.27	66.27	66.27
l_p,int, Pedestrian LOS Score for Intersection	2.427	3.000	2.707
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	1053	1107
d_b, Bicycle Delay [s]	33.33	16.81	14.96
l_b,int, Bicycle LOS Score for Intersection	1.560	2.576	3.030
Bicycle LOS	A	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Nutmeg St/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.582

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	190.00	100.00	100.00	65.00	100.00	100.00	215.00	100.00	100.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	67	50	280	80	49	23	55	809	74	285	757	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	70	0	0	6	0	0	19	0	0	26
Total Hourly Volume [veh/h]	67	50	210	80	49	17	55	809	55	285	757	77
Peak Hour Factor	0.8862	0.8862	0.8862	0.8444	0.8444	0.8444	0.9306	0.9306	0.9306	0.8945	0.8945	0.8945
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	14	59	24	15	5	15	217	15	80	212	22
Total Analysis Volume [veh/h]	76	56	237	95	58	20	59	869	59	319	846	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			4			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	22	46	0	24	48	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	17	17	17	4	51	51	20	66	66
g / C, Green / Cycle	0.17	0.17	0.17	0.17	0.17	0.04	0.51	0.51	0.20	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.06	0.03	0.15	0.09	0.04	0.03	0.25	0.25	0.18	0.25	0.25
s, saturation flow rate [veh/h]	1321	1870	1568	1086	1780	1781	1870	1823	1781	1870	1810
c, Capacity [veh/h]	226	322	270	212	307	78	957	933	349	1241	1201
d1, Uniform Delay [s]	41.43	35.31	40.25	41.60	35.82	47.27	15.91	15.93	39.38	7.57	7.57
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.15	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.87	0.25	8.84	1.49	0.43	13.58	1.80	1.85	12.81	0.89	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.17	0.88	0.45	0.25	0.75	0.49	0.49	0.91	0.38	0.38
d, Delay for Lane Group [s/veh]	42.30	35.56	49.09	43.09	36.25	60.85	17.71	17.78	52.20	8.46	8.50
Lane Group LOS	D	D	D	D	D	E	B	B	D	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.80	1.18	6.26	2.31	1.68	1.74	7.16	7.02	8.80	4.38	4.27
50th-Percentile Queue Length [ft/ln]	45.04	29.59	156.61	57.69	41.93	43.51	179.08	175.62	220.02	109.62	106.73
95th-Percentile Queue Length [veh/ln]	3.24	2.13	10.37	4.15	3.02	3.13	11.55	11.37	13.67	7.82	7.66
95th-Percentile Queue Length [ft/ln]	81.08	53.26	259.23	103.83	75.47	78.32	288.82	284.29	341.65	195.47	191.45

Movement, Approach, & Intersection Results

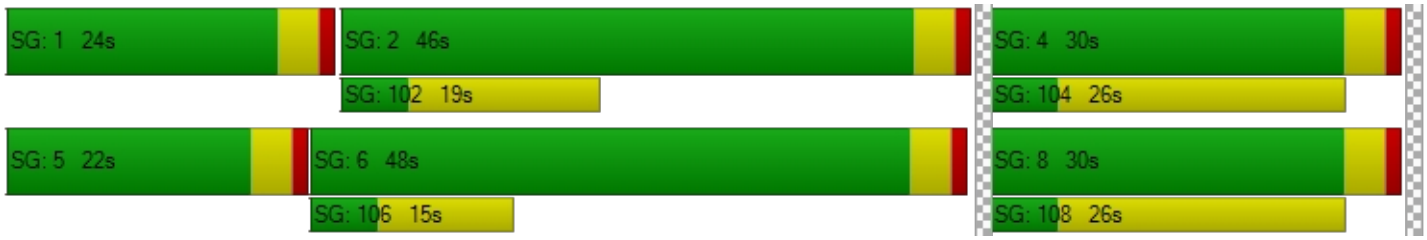
d_M, Delay for Movement [s/veh]	42.30	35.56	49.09	43.09	36.25	36.25	60.85	17.74	17.78	52.20	8.48	8.50
Movement LOS	D	D	D	D	D	D	E	B	B	D	A	A
d_A, Approach Delay [s/veh]	45.64			40.01			20.32			19.63		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	24.59											
Intersection LOS	C											
Intersection V/C	0.582											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	2.455	2.087	2.912	3.046
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	520	520	840	880
d_b, Bicycle Delay [s]	27.39	27.43	16.83	15.68
l_b,int, Bicycle LOS Score for Intersection	2.284	1.855	2.390	2.613
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: California Oaks Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	31.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.773

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	275.00	100.00	100.00	100.00	255.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	159	688	1062	112	399	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	172	0	28	0	0
Total Hourly Volume [veh/h]	159	516	1062	84	399	969
Peak Hour Factor	0.9287	0.9287	0.9317	0.9317	0.8724	0.8724
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	139	285	23	114	278
Total Analysis Volume [veh/h]	171	556	1140	90	457	1111
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		1		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	2		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Split [s]	26	0	41	0	28	69
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	17	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	C	L	C
C, Cycle Length [s]	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	19	19	40	40	24	68
g / C, Green / Cycle	0.20	0.20	0.20	0.42	0.42	0.25	0.72
(v / s)_i Volume / Saturation Flow Rate	0.10	0.17	0.18	0.33	0.34	0.26	0.31
s, saturation flow rate [veh/h]	1777	1589	1552	1870	1823	1781	3560
c, Capacity [veh/h]	358	320	312	785	765	450	2544
d1, Uniform Delay [s]	33.53	36.73	36.73	23.83	24.13	35.50	5.63
k, delay calibration	0.11	0.12	0.13	0.50	0.50	0.31	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.99	8.08	10.27	7.69	8.76	37.57	0.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.87	0.89	0.78	0.80	1.02	0.44
d, Delay for Lane Group [s/veh]	34.52	44.81	47.00	31.52	32.89	73.07	6.17
Lane Group LOS	C	D	D	C	C	F	A
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.54	6.85	7.03	13.05	13.38	14.83	3.94
50th-Percentile Queue Length [ft/ln]	88.59	171.31	175.65	326.30	334.58	370.81	98.41
95th-Percentile Queue Length [veh/ln]	6.38	11.15	11.37	18.98	19.38	21.35	7.09
95th-Percentile Queue Length [ft/ln]	159.46	278.64	284.32	474.42	484.57	533.64	177.13

Movement, Approach, & Intersection Results

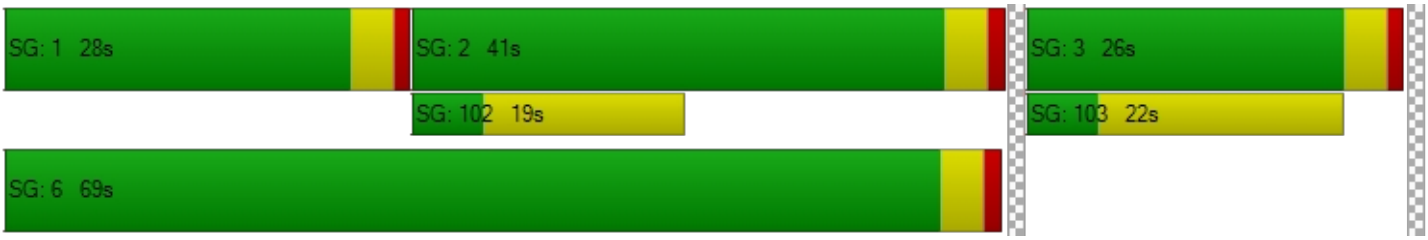
d_M, Delay for Movement [s/veh]	34.52	45.90	32.15	32.89	73.07	6.17
Movement LOS	C	D	C	C	F	A
d_A, Approach Delay [s/veh]	43.23		32.21		25.67	
Approach LOS	D		C		C	
d_I, Intersection Delay [s/veh]	31.57					
Intersection LOS	C					
Intersection V/C	0.773					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	38.93
l_p,int, Pedestrian LOS Score for Intersection	2.739	2.794	2.974
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	463	779	1368
d_b, Bicycle Delay [s]	28.08	17.71	4.74
l_b,int, Bicycle LOS Score for Intersection	3.043	2.597	2.853
Bicycle LOS	C	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Nutmeg St/Jackson Ave

Control Type:	Signalized	Delay (sec / veh):	26.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.362

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	200.00	100.00	100.00	195.00	100.00	100.00	210.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	107	214	192	110	208	42	36	212	83	126	261	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	48	0	0	11	0	0	21	0	0	17
Total Hourly Volume [veh/h]	107	214	144	110	208	31	36	212	62	126	261	52
Peak Hour Factor	0.9430	0.9430	0.9430	0.8330	0.8330	0.8330	0.9300	0.9300	0.9300	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	57	38	33	62	9	10	57	17	35	72	14
Total Analysis Volume [veh/h]	113	227	153	132	250	37	39	228	67	139	288	57
Presence of On-Street Parking	No		No	No		No	No		Yes	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			2			1		
v_co, Outbound Pedestrian Volume crossing	3			2			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			2			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			1			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	11	26	0	15	26	0	12	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	34	34	7	35	35	3	10	10	7	15	15
g / C, Green / Cycle	0.08	0.46	0.46	0.09	0.47	0.47	0.04	0.14	0.14	0.10	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.06	0.12	0.10	0.07	0.08	0.08	0.02	0.08	0.09	0.08	0.09	0.10
s, saturation flow rate [veh/h]	1781	1870	1566	1781	1870	1780	1781	1870	1534	1781	1870	1763
c, Capacity [veh/h]	144	858	718	166	881	838	68	257	211	174	369	348
d1, Uniform Delay [s]	33.84	12.51	12.16	33.32	11.39	11.40	35.49	30.48	30.61	33.13	26.68	26.73
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.12	0.75	0.68	8.47	0.40	0.43	7.56	2.40	3.28	8.23	0.96	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.26	0.21	0.80	0.17	0.17	0.58	0.62	0.65	0.80	0.48	0.49
d, Delay for Lane Group [s/veh]	42.96	13.27	12.84	41.79	11.79	11.84	43.04	32.88	33.89	41.36	27.64	27.78
Lane Group LOS	D	B	B	D	B	B	D	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.33	2.35	1.55	2.67	1.38	1.35	0.83	2.79	2.45	2.80	2.79	2.68
50th-Percentile Queue Length [ft/ln]	58.17	58.63	38.85	66.81	34.58	33.71	20.66	69.78	61.22	69.92	69.82	67.12
95th-Percentile Queue Length [veh/ln]	4.19	4.22	2.80	4.81	2.49	2.43	1.49	5.02	4.41	5.03	5.03	4.83
95th-Percentile Queue Length [ft/ln]	104.71	105.54	69.94	120.25	62.24	60.68	37.19	125.60	110.19	125.86	125.67	120.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.96	13.27	12.84	41.79	11.81	11.84	43.04	33.18	33.89	41.36	27.69	27.78
Movement LOS	D	B	B	D	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	19.94			21.26			34.48			31.63		
Approach LOS	B			C			C			C		
d_I, Intersection Delay [s/veh]	26.34											
Intersection LOS	C											
Intersection V/C	0.362											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.04	29.04	29.04	29.04
l_p,int, Pedestrian LOS Score for Intersection	2.559	2.327	2.479	2.524
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	587	587	587	507
d_b, Bicycle Delay [s]	18.75	18.74	18.74	20.91
l_b,int, Bicycle LOS Score for Intersection	2.452	1.914	1.852	1.973
Bicycle LOS	B	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Palomar Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	37.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.613

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	27.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	265.00	100.00	100.00	300.00	100.00	190.00	150.00	100.00	105.00	205.00	100.00	205.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	52	692	66	257	622	227	187	108	37	69	267	258
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	57	0	0	9	0	0	65
Total Hourly Volume [veh/h]	52	692	49	257	622	170	187	108	28	69	267	193
Peak Hour Factor	0.9507	0.9507	0.9507	0.9130	0.9130	0.9130	0.9330	0.9330	0.9330	0.9399	0.9399	0.9399
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	182	13	70	170	47	50	29	8	18	71	51
Total Analysis Volume [veh/h]	55	728	52	281	681	186	200	116	30	73	284	205
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			1		
v_co, Outbound Pedestrian Volume crossing	0			1			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			1			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			1			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	22	42	0	30	28	0	35	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	19	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	48	48	18	62	62	15	27	27	6	18	18
g / C, Green / Cycle	0.04	0.42	0.42	0.16	0.54	0.54	0.13	0.23	0.23	0.05	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.03	0.21	0.21	0.16	0.19	0.12	0.11	0.06	0.02	0.04	0.08	0.13
s, saturation flow rate [veh/h]	1781	1870	1827	1781	3560	1589	1781	1870	1632	1781	3560	1561
c, Capacity [veh/h]	71	785	766	279	1910	852	232	431	376	97	550	241
d1, Uniform Delay [s]	54.70	24.55	24.55	48.50	15.29	14.00	48.99	36.32	34.70	53.60	44.68	47.21
k, delay calibration	0.11	0.50	0.50	0.16	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.33	2.30	2.35	32.54	0.52	0.59	9.09	0.33	0.09	11.06	0.75	8.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.50	0.50	1.01	0.36	0.22	0.86	0.27	0.08	0.75	0.52	0.85
d, Delay for Lane Group [s/veh]	71.03	26.84	26.90	81.04	15.81	14.59	58.08	36.66	34.79	64.65	45.44	55.42
Lane Group LOS	E	C	C	F	B	B	E	D	C	E	D	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.90	8.32	8.15	10.47	5.16	2.65	6.20	2.72	0.67	2.38	3.78	6.23
50th-Percentile Queue Length [ft/ln]	47.47	208.08	203.65	261.77	128.89	66.24	154.91	68.07	16.81	59.48	94.54	155.74
95th-Percentile Queue Length [veh/ln]	3.42	13.05	12.83	15.84	8.88	4.77	10.28	4.90	1.21	4.28	6.81	10.32
95th-Percentile Queue Length [ft/ln]	85.44	326.36	320.67	395.98	221.98	119.23	256.97	122.52	30.25	107.07	170.17	258.07

Movement, Approach, & Intersection Results

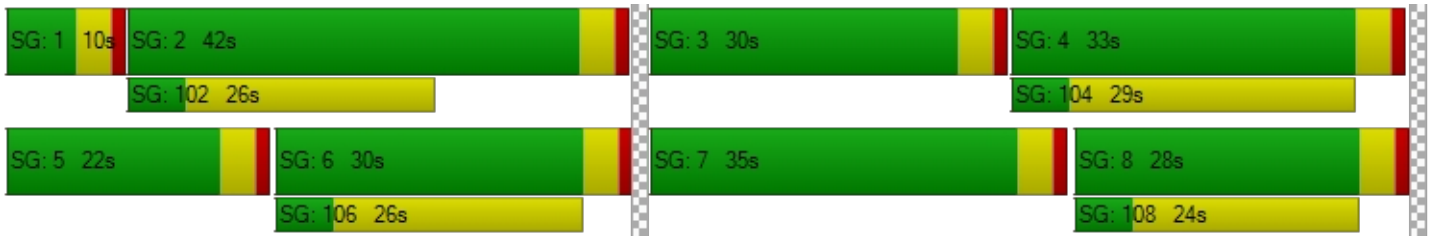
d_M, Delay for Movement [s/veh]	71.03	26.87	26.90	81.04	15.81	14.59	58.08	36.66	34.79	64.65	45.44	55.42
Movement LOS	E	C	C	F	B	B	E	D	C	E	D	E
d_A, Approach Delay [s/veh]	29.78			31.58			48.88			51.57		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	37.02											
Intersection LOS	D											
Intersection V/C	0.613											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.85	48.85	48.85	48.85
l_p,int, Pedestrian LOS Score for Intersection	2.658	3.023	2.509	2.736
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	452	661	417	504
d_b, Bicycle Delay [s]	34.44	25.78	36.02	32.20
l_b,int, Bicycle LOS Score for Intersection	2.263	2.554	2.145	2.077
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 SB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.489

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	2	0	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	685.00	100.00	100.00	290.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	514	6	399	0	933	520	261	1178	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	100	0	0	130	0	0	0
Total Hourly Volume [veh/h]	0	0	0	514	6	299	0	933	390	261	1178	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9490	0.9490	0.9490	1.0000	0.9580	0.9580	0.9570	0.9570	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	135	2	79	0	243	102	68	308	0
Total Analysis Volume [veh/h]	0	0	0	542	6	315	0	974	407	273	1231	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			1			0		
v_di, Inbound Pedestrian Volume crossing m	1			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	32	0	0	31	0	17	48	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	18	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	R	L	C
C, Cycle Length [s]		80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		35	35	35	24	24	9	37
g / C, Green / Cycle		0.43	0.43	0.43	0.31	0.31	0.11	0.47
(v / s)_i Volume / Saturation Flow Rate		0.15	0.15	0.11	0.19	0.26	0.08	0.24
s, saturation flow rate [veh/h]		1781	1783	2778	5094	1588	3459	5094
c, Capacity [veh/h]		771	772	1203	1558	486	385	2379
d1, Uniform Delay [s]		15.20	15.20	14.49	23.83	25.90	34.30	14.98
k, delay calibration		0.50	0.50	0.50	0.11	0.22	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.28	1.28	0.53	0.42	7.58	2.43	0.18
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.36	0.36	0.26	0.63	0.84	0.71	0.52
d, Delay for Lane Group [s/veh]		16.48	16.48	15.02	24.24	33.48	36.73	15.15
Lane Group LOS		B	B	B	C	C	D	B
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		3.42	3.42	1.81	5.10	7.88	2.63	4.89
50th-Percentile Queue Length [ft/ln]		85.39	85.41	45.24	127.38	197.12	65.78	122.35
95th-Percentile Queue Length [veh/ln]		6.15	6.15	3.26	8.80	12.49	4.74	8.52
95th-Percentile Queue Length [ft/ln]		153.70	153.73	81.43	219.92	312.25	118.40	213.05

Movement, Approach, & Intersection Results

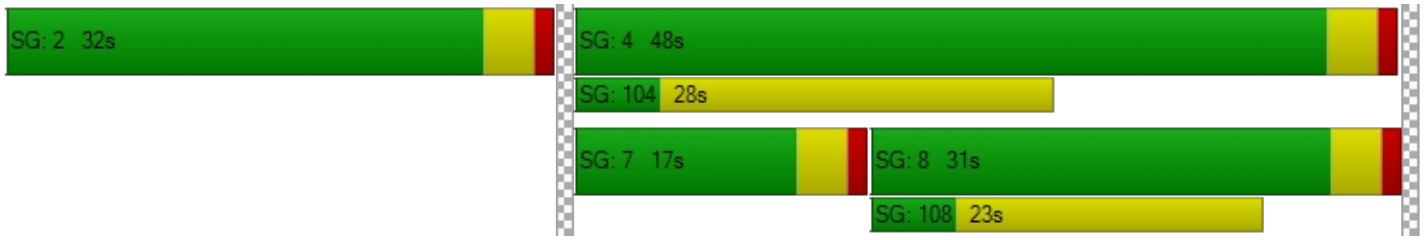
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	16.48	16.48	15.02	0.00	24.24	33.48	36.73	15.15	0.00
Movement LOS				B	B	B		C	C	D	B	
d_A, Approach Delay [s/veh]	0.00			15.95			26.97			19.07		
Approach LOS	A			B			C			B		
d_I, Intersection Delay [s/veh]	21.26											
Intersection LOS	C											
Intersection V/C	0.489											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	4220.92	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.108	2.626	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	700	675	1100
d_b, Bicycle Delay [s]	40.00	16.91	17.56	8.10
l_b,int, Bicycle LOS Score for Intersection	4.132	3.149	2.391	2.387
Bicycle LOS	D	C	B	B

Sequence

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: I-15 NB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	19.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.601

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	685.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	305.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	561	0	370	0	0	0	347	1098	0	0	879	614
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	93	0	0	0	0	0	0	0	0	154
Total Hourly Volume [veh/h]	561	0	277	0	0	0	347	1098	0	0	879	460
Peak Hour Factor	0.9461	0.9461	0.9461	1.0000	1.0000	1.0000	0.9432	0.9432	1.0000	1.0000	0.9285	0.9285
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	148	0	73	0	0	0	92	291	0	0	237	124
Total Analysis Volume [veh/h]	593	0	293	0	0	0	368	1164	0	0	947	495
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			1			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	23	0	0	0	0	13	47	0	0	34	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	20	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		L	C	C	R
C, Cycle Length [s]	70	70	70		70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	24		9	38	25	25
g / C, Green / Cycle	0.34	0.34	0.34		0.13	0.55	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.17	0.17	0.18		0.11	0.23	0.19	0.31
s, saturation flow rate [veh/h]	1781	1777	1568		3459	5094	5094	1589
c, Capacity [veh/h]	599	598	528		445	2798	1852	578
d1, Uniform Delay [s]	18.53	18.53	18.82		29.74	9.21	17.41	20.58
k, delay calibration	0.50	0.50	0.50		0.11	0.11	0.11	0.25
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.96	2.98	4.01		3.99	0.10	0.22	8.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.50	0.55		0.83	0.42	0.51	0.86
d, Delay for Lane Group [s/veh]	21.49	21.51	22.83		33.74	9.31	17.63	28.83
Lane Group LOS	C	C	C		C	A	B	C
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.09	4.09	4.10		3.14	2.99	3.72	8.15
50th-Percentile Queue Length [ft/ln]	102.34	102.34	102.58		78.54	74.68	93.03	203.81
95th-Percentile Queue Length [veh/ln]	7.37	7.37	7.39		5.66	5.38	6.70	12.84
95th-Percentile Queue Length [ft/ln]	184.21	184.21	184.64		141.38	134.42	167.45	320.88

Movement, Approach, & Intersection Results

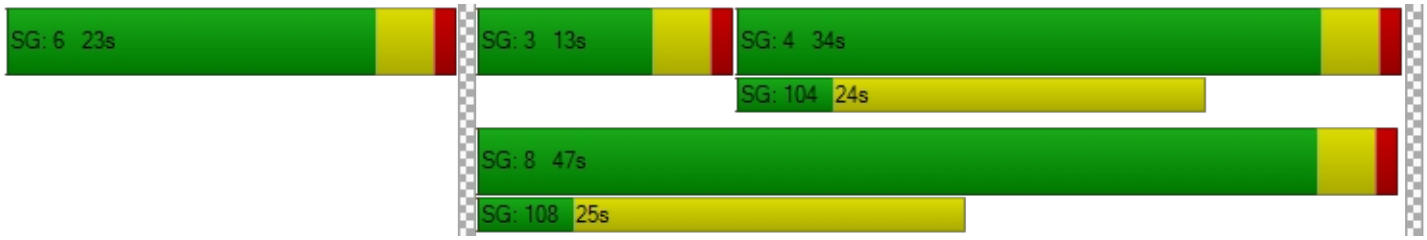
d_M, Delay for Movement [s/veh]	21.50	21.51	22.83	0.00	0.00	0.00	33.74	9.31	0.00	0.00	17.63	28.83
Movement LOS	C	C	C				C	A			B	C
d_A, Approach Delay [s/veh]	21.93			0.00			15.18			21.47		
Approach LOS	C			A			B			C		
d_I, Intersection Delay [s/veh]	19.08											
Intersection LOS	B											
Intersection V/C	0.601											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	13962.76	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.491	2.199	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	543	0	1229	857
d_b, Bicycle Delay [s]	18.60	35.00	5.21	11.43
l_b,int, Bicycle LOS Score for Intersection	3.175	4.132	2.402	2.437
Bicycle LOS	C	D	B	B

Sequence

Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Clinton Keith Rd/Arya Rd

Control Type:	Signalized	Delay (sec / veh):	67.3
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.186

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	285.00	100.00	100.00	315.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	296	5	100	10	3	53	33	1134	273	70	1131	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	25	0	0	13	0	0	68	0	0	11
Total Hourly Volume [veh/h]	296	5	75	10	3	40	33	1134	205	70	1131	32
Peak Hour Factor	0.9639	0.9639	0.9639	0.6600	0.6600	0.6600	0.9626	0.9626	0.9626	0.9599	0.9599	0.9599
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	1	19	4	1	15	9	295	53	18	295	8
Total Analysis Volume [veh/h]	307	5	78	15	5	61	34	1178	213	73	1178	33
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			1			0		
v_di, Inbound Pedestrian Volume crossing m	0			1			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	160
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	88	0	0	88	0	14	62	0	10	58	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	31	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	84	84	84	4	58	58	6	60	60
g / C, Green / Cycle	0.52	0.52	0.52	0.02	0.36	0.36	0.04	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.88	0.05	0.47	0.02	0.26	0.26	0.04	0.22	0.22
s, saturation flow rate [veh/h]	354	1569	172	1781	3560	1727	1781	3560	1844
c, Capacity [veh/h]	230	822	117	44	1294	628	67	1340	694
d1, Uniform Delay [s]	46.22	19.06	47.87	77.59	43.98	43.98	77.00	40.10	40.10
k, delay calibration	0.50	0.11	0.40	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	185.79	0.05	24.16	24.73	3.54	7.11	78.41	1.95	3.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.36	0.09	0.69	0.78	0.72	0.72	1.09	0.60	0.60
d, Delay for Lane Group [s/veh]	232.01	19.11	72.03	102.32	47.53	51.09	155.41	42.05	43.84
Lane Group LOS	F	B	E	F	D	D	F	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	21.44	1.51	2.87	1.70	16.80	16.92	4.22	13.14	13.96
50th-Percentile Queue Length [ft/ln]	536.01	37.70	71.68	42.59	419.90	422.93	105.57	328.50	348.96
95th-Percentile Queue Length [veh/ln]	34.99	2.71	5.16	3.07	23.52	23.66	7.60	19.08	20.09
95th-Percentile Queue Length [ft/ln]	874.87	67.87	129.03	76.66	587.93	591.56	190.02	477.12	502.14

Movement, Approach, & Intersection Results

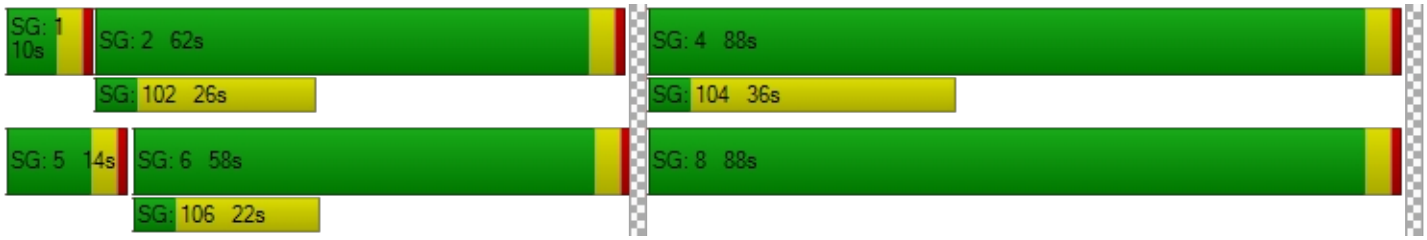
d_M, Delay for Movement [s/veh]	232.01	232.01	19.11	72.03	72.03	72.03	102.32	48.26	51.09	155.41	42.63	43.84
Movement LOS	F	F	B	E	E	E	F	D	D	F	D	D
d_A, Approach Delay [s/veh]	189.43			72.03			49.97			49.07		
Approach LOS	F			E			D			D		
d_I, Intersection Delay [s/veh]	67.27											
Intersection LOS	E											
Intersection V/C	1.186											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	2181.01	0.00
d_p, Pedestrian Delay [s]	71.25	71.25	71.25	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.256	1.848	3.581	0.000
Crosswalk LOS	B	A	D	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1050	1050	725	675
d_b, Bicycle Delay [s]	18.07	18.06	32.51	35.11
l_b,int, Bicycle LOS Score for Intersection	2.244	1.715	2.381	2.272
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Arya Rd/Catt Rd

Control Type:	All-way stop	Delay (sec / veh):	7.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.100

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	84	0	0	84	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	84	0	0	84	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	0	0	21	0	0
Total Analysis Volume [veh/h]	84	0	0	84	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	839	1021	857
Degree of Utilization, x	0.10	0.08	0.00

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.33	0.27	0.00
95th-Percentile Queue Length [ft]	8.32	6.71	0.00
Approach Delay [s/veh]	7.77	6.84	0.00
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.31		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 11: Wildomar Trl/Proj Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	279	256	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	279	256	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	70	64	0	0	0
Total Analysis Volume [veh/h]	0	279	256	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.60
Movement LOS		A	A	A		A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		9.60	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Wildomar Trl/Proj Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	279	256	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	279	256	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	70	64	0	0	0
Total Analysis Volume [veh/h]	0	279	256	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.75	0.00	0.00	0.00	12.11	9.60
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.86	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Existing PM.pdf

Scenario 12 Existing PM
5/9/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Clinton Keith Rd/Wildomar Trl	54	27	68	83	32	132	182	1040	21	120	1059	60	2878

ID	Intersection Name	Northbound		Eastbound			Westbound		Total Volume
		Left	Right	U-T	Thru	Right	Left	Thru	
2	Inland Valley Dr/Clinton Keith Rd	416	106	0	876	273	20	845	2536

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Nutmeg St/Clinton Keith Rd	67	50	280	80	49	23	55	809	74	285	757	103	2632

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
4	California Oaks Rd/Clinton Keith Rd	159	688	1062	112	399	969	3389

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Nutmeg St/Jackson Ave	107	214	192	110	208	42	36	212	83	126	261	69	1660

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Palomar Rd/Clinton Keith Rd	52	692	66	257	622	227	187	108	37	69	267	258	2842

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
7	I-15 SB Ramps/Clinton Keith Rd	514	6	399	933	520	261	1178	3811

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
8	I-15 NB Ramps/Clinton Keith Rd	561	0	370	347	1098	879	614	3869

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
9	Clinton Keith Rd/Arya Rd	296	5	100	10	3	53	33	1134	273	70	1131	43	3151

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
10	Arya Rd/Catt Rd	84	0	0	84	0	0	168

ID	Intersection Name	Northbound	Southbound		Eastbound	Total Volume
		Thru	Thru	Right	Right	
11	Wildomar Trl/Proj Dwy 3	279	256	0	0	535

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
12	Wildomar Trl/Proj Dwy 4	0	279	256	0	0	0	535

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Project Completion AM.pdf

Scenario 13 Project Completion AM
5/9/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Clinton Keith Rd/Wildomar Trl	Signalized	HCM 6th Edition	WB Left	0.598	27.4	C
2	Inland Valley Dr/Clinton Keith Rd	Signalized	HCM 6th Edition	NB Left	0.734	28.6	C
3	Nutmeg St/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.626	24.8	C
4	California Oaks Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.806	33.5	C
5	Nutmeg St/Jackson Ave	Signalized	HCM 6th Edition	SB Left	0.468	32.5	C
6	Palomar Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	SB Left	0.787	50.5	D
7	I-15 SB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.577	19.0	B
8	I-15 NB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	EB Left	0.576	16.4	B
9	Clinton Keith Rd/Arya Rd	Signalized	HCM 6th Edition	EB Left	0.587	36.2	D
10	Arya Rd/Catt Rd	All-way stop	HCM 6th Edition	NB Left	0.186	7.9	A
11	Wildomar Trl/Proj Dwy 3	Two-way stop	HCM 6th Edition	EB Right	0.047	11.1	B
12	Wildomar Trl/Proj Dwy 4	Two-way stop	HCM 6th Edition	EB Left	0.016	17.2	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Clinton Keith Rd/Wildomar Trl

Control Type:	Signalized	Delay (sec / veh):	27.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.598

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	95.00	100.00	100.00	165.00	100.00	100.00	330.00	100.00	255.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	48	20	36	105	28	204	135	794	22	53	946	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	60	0	20	24	8	0	0	4	70
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	58	0	0	6	0	0	30
Total Hourly Volume [veh/h]	50	21	28	169	29	174	164	834	17	55	988	88
Peak Hour Factor	0.7222	0.7222	0.7222	0.6740	0.6740	0.6740	0.9144	0.9144	0.9144	0.8978	0.8978	0.8978
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	7	10	63	11	65	45	228	5	15	275	25
Total Analysis Volume [veh/h]	69	29	39	251	43	258	179	912	19	61	1101	98
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	43	0	0	43	0	23	41	0	41	59	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	33	0	0	19	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	32	32	32	32	14	75	75	6	66	66
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.12	0.60	0.60	0.05	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.19	0.02	0.16	0.10	0.17	0.17	0.03	0.31	0.06
s, saturation flow rate [veh/h]	1078	1698	1333	1870	1589	1781	3560	1851	1781	3560	1589
c, Capacity [veh/h]	296	437	334	482	409	206	2140	1112	81	1889	843
d1, Uniform Delay [s]	40.54	35.89	48.40	35.26	41.13	54.32	12.02	12.02	58.97	19.94	14.68
k, delay calibration	0.11	0.11	0.17	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	0.16	5.19	0.08	1.60	10.49	0.34	0.65	13.18	1.32	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.23	0.16	0.75	0.09	0.63	0.87	0.29	0.29	0.75	0.58	0.12
d, Delay for Lane Group [s/veh]	40.94	36.05	53.59	35.34	42.73	64.81	12.35	12.67	72.15	21.26	14.96
Lane Group LOS	D	D	D	D	D	E	B	B	E	C	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.81	1.64	8.10	1.02	7.23	6.14	4.16	4.42	2.21	11.05	1.47
50th-Percentile Queue Length [ft/ln]	45.34	41.02	202.44	25.44	180.73	153.42	103.94	110.53	55.21	276.23	36.71
95th-Percentile Queue Length [veh/ln]	3.26	2.95	12.76	1.83	11.64	10.20	7.48	7.87	3.98	16.50	2.64
95th-Percentile Queue Length [ft/ln]	81.61	73.83	319.11	45.79	290.97	254.99	187.10	196.74	99.38	412.51	66.07

Movement, Approach, & Intersection Results

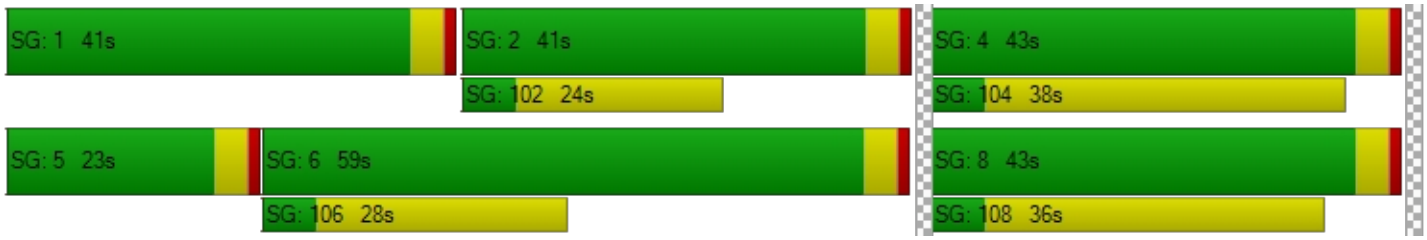
d_M, Delay for Movement [s/veh]	40.94	36.05	36.05	53.59	35.34	42.73	64.81	12.46	12.67	72.15	21.26	14.96
Movement LOS	D	D	D	D	D	D	E	B	B	E	C	B
d_A, Approach Delay [s/veh]	38.51			47.09			20.90			23.23		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	27.38											
Intersection LOS	C											
Intersection V/C	0.598											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.82	53.82	53.82	53.82
l_p,int, Pedestrian LOS Score for Intersection	2.060	2.461	3.000	3.359
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	624	624	592	880
d_b, Bicycle Delay [s]	29.58	29.58	30.98	19.60
l_b,int, Bicycle LOS Score for Intersection	1.801	2.566	2.173	2.624
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Inland Valley Dr/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	28.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name							
Approach	Northbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	U-turn	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1	0
Entry Pocket Length [ft]	100.00	185.00	300.00	100.00	100.00	225.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	147.11
Speed [mph]	30.00		30.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		Yes			Yes	

Volumes

Name							
Base Volume Input [veh/h]	252	29	0	537	409	103	809
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	48	20	0	50
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	8	0	0	111	0	0
Total Hourly Volume [veh/h]	286	22	0	606	334	107	891
Peak Hour Factor	0.8464	0.8464	0.9198	0.9198	0.9198	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	6	0	165	91	29	245
Total Analysis Volume [veh/h]	338	26	0	659	363	118	979
Presence of On-Street Parking	Yes	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	5	2	0	1	6
Auxiliary Signal Groups							
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	0	5	10	0	5	10
Maximum Green [s]	30	0	30	30	0	30	30
Amber [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	45	0	9	44	0	61	96
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	0	5	0	0	5
Pedestrian Clearance [s]	21	0	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No	No		No	No
Maximum Recall	No		No	No		No	No
Pedestrian Recall	No		No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	R	L	C
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	0	92	92	12	104
g / C, Green / Cycle	0.22	0.22	0.00	0.62	0.62	0.08	0.70
(v / s)_i Volume / Saturation Flow Rate	0.21	0.02	0.00	0.19	0.23	0.07	0.52
s, saturation flow rate [veh/h]	1603	1589	1781	3560	1589	1781	1870
c, Capacity [veh/h]	360	357	0	2190	978	143	1300
d1, Uniform Delay [s]	57.15	45.85	0.00	13.64	14.41	67.92	14.61
k, delay calibration	0.29	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	24.06	0.09	0.00	0.35	1.08	11.12	4.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.94	0.07	0.00	0.30	0.37	0.82	0.75
d, Delay for Lane Group [s/veh]	81.21	45.94	0.00	13.99	15.49	79.04	18.68
Lane Group LOS	F	D	A	B	B	E	B
Critical Lane Group	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	15.01	0.79	0.00	5.42	6.48	4.92	21.62
50th-Percentile Queue Length [ft/ln]	375.24	19.66	0.00	135.53	161.91	123.05	540.51
95th-Percentile Queue Length [veh/ln]	21.36	1.42	0.00	9.24	10.65	8.56	29.25
95th-Percentile Queue Length [ft/ln]	534.09	35.38	0.00	230.99	266.25	214.01	731.15

Movement, Approach, & Intersection Results

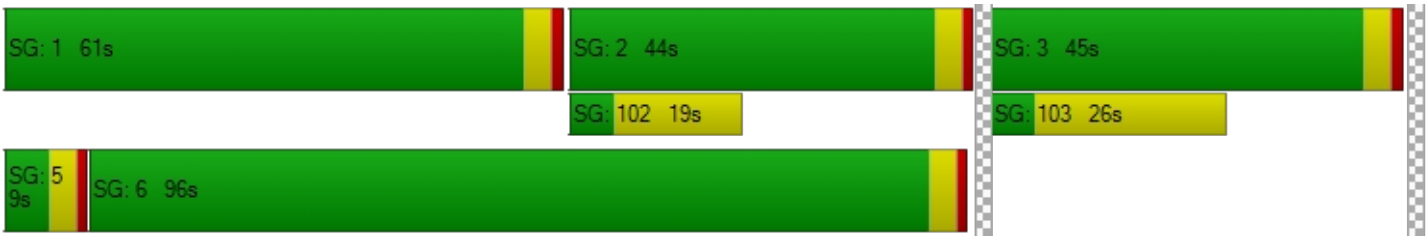
d_M, Delay for Movement [s/veh]	81.21	45.94	0.00	13.99	15.49	79.04	18.68
Movement LOS	F	D	A	B	B	E	B
d_A, Approach Delay [s/veh]	78.69		14.52			25.17	
Approach LOS	E		B			C	
d_I, Intersection Delay [s/veh]	28.64						
Intersection LOS	C						
Intersection V/C	0.734						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.27	66.27	66.27
l_p,int, Pedestrian LOS Score for Intersection	2.403	3.034	2.674
Crosswalk LOS	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	533	1227
d_b, Bicycle Delay [s]	39.60	40.33	11.21
l_b,int, Bicycle LOS Score for Intersection	1.560	2.494	3.370
Bicycle LOS	A	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Nutmeg St/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.626

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	190.00	100.00	100.00	65.00	100.00	100.00	215.00	100.00	100.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	91	37	317	101	59	30	21	532	112	385	707	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	0	0	0	12	10	23	5	0	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	83	0	0	11	0	0	30	0	0	18
Total Hourly Volume [veh/h]	101	38	247	105	61	32	32	576	91	400	755	53
Peak Hour Factor	0.9349	0.9349	0.9349	0.8962	0.8962	0.8962	0.8396	0.8396	0.8396	0.9295	0.9295	0.9295
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	10	66	29	17	9	10	172	27	108	203	14
Total Analysis Volume [veh/h]	108	41	264	117	68	36	38	686	108	430	812	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	3			6			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			6			3		
v_co, Outbound Pedestrian Volume crossing	0			6			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			6		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	31	26	0	24	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	16	16	16	3	32	32	20	49	49
g / C, Green / Cycle	0.20	0.20	0.20	0.20	0.20	0.04	0.40	0.40	0.25	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.08	0.02	0.17	0.11	0.06	0.02	0.22	0.22	0.24	0.23	0.24
s, saturation flow rate [veh/h]	1282	1870	1582	1071	1747	1781	1870	1782	1781	1870	1820
c, Capacity [veh/h]	251	374	316	260	349	66	748	713	445	1147	1116
d1, Uniform Delay [s]	33.39	26.18	30.71	31.81	27.23	37.92	18.39	18.40	29.66	7.82	7.83
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.19	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.16	0.13	5.76	1.22	0.47	7.85	2.82	2.96	19.22	0.97	1.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.11	0.83	0.45	0.30	0.58	0.54	0.54	0.97	0.38	0.39
d, Delay for Lane Group [s/veh]	34.55	26.31	36.47	33.04	27.70	45.77	21.21	21.36	48.88	8.79	8.84
Lane Group LOS	C	C	D	C	C	D	C	C	D	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.03	0.64	5.22	2.17	1.69	0.86	6.01	5.76	10.19	3.58	3.52
50th-Percentile Queue Length [ft/ln]	50.81	15.94	130.55	54.16	42.33	21.56	150.22	144.06	254.73	89.40	87.98
95th-Percentile Queue Length [veh/ln]	3.66	1.15	8.97	3.90	3.05	1.55	10.03	9.70	15.42	6.44	6.33
95th-Percentile Queue Length [ft/ln]	91.46	28.70	224.25	97.49	76.19	38.82	250.73	242.47	385.61	160.91	158.36

Movement, Approach, & Intersection Results

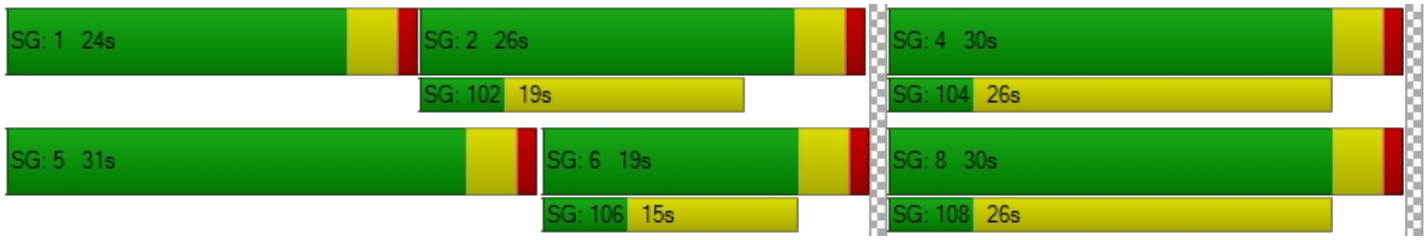
d_M, Delay for Movement [s/veh]	34.55	26.31	36.47	33.04	27.70	27.70	45.77	21.27	21.36	48.88	8.81	8.84
Movement LOS	C	C	D	C	C	C	D	C	C	D	A	A
d_A, Approach Delay [s/veh]	34.96			30.53			22.40			22.08		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	24.77											
Intersection LOS	C											
Intersection V/C	0.626											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
l_p,int, Pedestrian LOS Score for Intersection	2.521	2.077	2.942	3.041
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	650	650	550	375
d_b, Bicycle Delay [s]	18.23	18.23	21.03	26.43
l_b,int, Bicycle LOS Score for Intersection	2.378	1.942	2.271	2.646
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: California Oaks Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	33.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.806

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	275.00	100.00	100.00	100.00	255.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	98	387	805	157	617	1060
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	0	18	5	0	14
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	101	0	42	0	0
Total Hourly Volume [veh/h]	108	301	855	126	642	1116
Peak Hour Factor	0.9186	0.9186	0.9007	0.9007	0.9094	0.9094
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	82	237	35	176	307
Total Analysis Volume [veh/h]	118	328	949	140	706	1227
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		1		0	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Split [s]	27	0	29	0	44	73
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	17	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	C	L	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	13	13	35	35	40	79
g / C, Green / Cycle	0.13	0.13	0.13	0.35	0.35	0.40	0.79
(v / s)_i Volume / Saturation Flow Rate	0.07	0.10	0.10	0.29	0.31	0.40	0.34
s, saturation flow rate [veh/h]	1781	1589	1589	1870	1777	1781	3560
c, Capacity [veh/h]	234	209	209	652	620	712	2808
d1, Uniform Delay [s]	40.42	42.08	42.08	29.92	30.57	29.82	3.40
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.46	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.68	6.43	6.43	12.01	16.20	30.11	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.79	0.79	0.83	0.88	0.99	0.44
d, Delay for Lane Group [s/veh]	42.10	48.51	48.51	41.93	46.78	59.93	3.90
Lane Group LOS	D	D	D	D	D	E	A
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.80	4.26	4.26	13.84	14.71	22.08	2.96
50th-Percentile Queue Length [ft/ln]	69.95	106.58	106.58	345.90	367.64	551.97	74.02
95th-Percentile Queue Length [veh/ln]	5.04	7.65	7.65	19.94	20.99	29.79	5.33
95th-Percentile Queue Length [ft/ln]	125.91	191.23	191.23	498.40	524.87	744.63	133.24

Movement, Approach, & Intersection Results

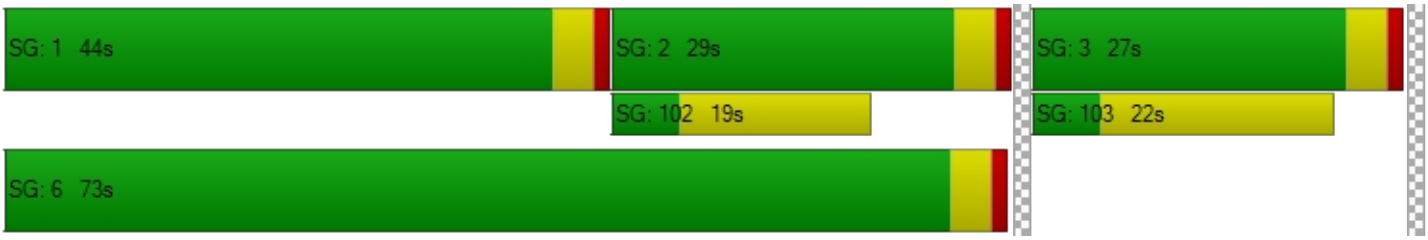
d_M, Delay for Movement [s/veh]	42.10	48.51	43.99	46.78	59.93	3.90
Movement LOS	D	D	D	D	E	A
d_A, Approach Delay [s/veh]	46.81		44.35		24.36	
Approach LOS	D		D		C	
d_I, Intersection Delay [s/veh]	33.53					
Intersection LOS	C					
Intersection V/C	0.806					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	2.631	2.801	2.952
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	460	500	1380
d_b, Bicycle Delay [s]	29.65	28.14	4.81
l_b,int, Bicycle LOS Score for Intersection	2.462	2.493	3.154
Bicycle LOS	B	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Nutmeg St/Jackson Ave

Control Type:	Signalized	Delay (sec / veh):	32.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.468

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	200.00	100.00	100.00	195.00	100.00	100.00	210.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	72	122	126	103	222	57	46	300	138	249	330	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	12	0	0	10	10	12	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	33	0	0	17	0	0	36	0	0	21
Total Hourly Volume [veh/h]	75	139	98	107	241	52	60	312	108	259	343	62
Peak Hour Factor	0.8600	0.8600	0.8600	0.8930	0.8930	0.8930	0.8900	0.8900	0.8900	0.8450	0.8450	0.8450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	40	28	30	67	15	17	88	30	77	101	18
Total Analysis Volume [veh/h]	87	162	114	120	270	58	67	351	121	307	406	73
Presence of On-Street Parking	No		No	No		No	No		Yes	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			2			2		
v_di, Inbound Pedestrian Volume crossing m	2			2			0			0		
v_co, Outbound Pedestrian Volume crossing	2			4			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			4			2		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			3			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	26	0	10	26	0	21	26	0	18	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	30	30	6	31	31	4	14	14	14	24	24
g / C, Green / Cycle	0.06	0.38	0.38	0.08	0.39	0.39	0.05	0.17	0.17	0.18	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.05	0.09	0.07	0.07	0.09	0.09	0.04	0.14	0.14	0.17	0.13	0.13
s, saturation flow rate [veh/h]	1781	1870	1566	1781	1870	1746	1781	1870	1515	1781	1870	1770
c, Capacity [veh/h]	112	702	588	134	725	677	91	327	265	312	558	528
d1, Uniform Delay [s]	36.94	17.09	16.81	36.70	16.48	16.52	37.42	31.60	31.74	32.90	22.66	22.67
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.03	0.77	0.74	18.37	0.75	0.82	10.87	4.24	5.89	20.39	0.55	0.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.23	0.19	0.90	0.23	0.24	0.74	0.79	0.81	0.99	0.44	0.44
d, Delay for Lane Group [s/veh]	47.97	17.86	17.55	55.07	17.22	17.34	48.28	35.84	37.64	53.29	23.21	23.25
Lane Group LOS	D	B	B	E	B	B	D	D	D	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.98	2.10	1.47	2.96	2.12	2.05	1.54	5.00	4.30	7.50	3.67	3.49
50th-Percentile Queue Length [ft/ln]	49.59	52.47	36.74	73.88	53.08	51.18	38.60	125.03	107.47	187.40	91.83	87.35
95th-Percentile Queue Length [veh/ln]	3.57	3.78	2.65	5.32	3.82	3.68	2.78	8.67	7.70	11.99	6.61	6.29
95th-Percentile Queue Length [ft/ln]	89.26	94.45	66.14	132.99	95.54	92.12	69.48	216.72	192.48	299.66	165.29	157.23

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.97	17.86	17.55	55.07	17.27	17.34	48.28	36.32	37.64	53.29	23.23	23.25
Movement LOS	D	B	B	E	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	24.98			27.40			38.10			34.97		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	32.47											
Intersection LOS	C											
Intersection V/C	0.468											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
l_p,int, Pedestrian LOS Score for Intersection	2.563	2.343	2.570	2.603
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	550	550	475
d_b, Bicycle Delay [s]	21.05	21.06	21.04	23.26
l_b,int, Bicycle LOS Score for Intersection	2.213	1.943	2.034	2.225
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Palomar Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	50.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.787

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	27.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	265.00	100.00	100.00	300.00	100.00	190.00	150.00	100.00	105.00	205.00	100.00	205.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	33	630	106	281	416	107	195	281	48	54	186	389
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	6	0	0	6	10	12	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	28	0	0	30	0	0	13	0	0	101
Total Hourly Volume [veh/h]	34	661	82	292	439	91	215	292	37	56	193	304
Peak Hour Factor	0.8469	0.8490	0.8469	0.9050	0.9050	0.9050	0.7529	0.7529	0.7529	0.8935	0.8935	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	195	24	81	121	25	71	97	12	16	54	81
Total Analysis Volume [veh/h]	40	779	97	323	485	101	286	388	49	63	216	323
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			2			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			1			2		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	7			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	30	0	23	31	0	29	41	0	21	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	19	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	34	34	19	49	49	20	41	41	5	26	26
g / C, Green / Cycle	0.03	0.29	0.29	0.17	0.43	0.43	0.18	0.36	0.36	0.05	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.02	0.24	0.24	0.18	0.14	0.06	0.16	0.21	0.03	0.04	0.06	0.21
s, saturation flow rate [veh/h]	1781	1870	1798	1781	3560	1589	1781	1870	1652	1781	3560	1563
c, Capacity [veh/h]	58	548	527	294	1517	677	316	666	588	83	801	352
d1, Uniform Delay [s]	55.08	37.74	37.74	48.00	21.93	20.22	46.34	30.09	24.58	54.20	36.78	43.35
k, delay calibration	0.11	0.50	0.50	0.23	0.50	0.50	0.17	0.11	0.11	0.11	0.11	0.24
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.94	12.53	12.98	65.07	0.56	0.47	13.76	0.81	0.06	13.31	0.18	18.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.81	0.81	1.10	0.32	0.15	0.90	0.58	0.08	0.76	0.27	0.92
d, Delay for Lane Group [s/veh]	69.01	50.26	50.71	113.07	22.48	20.69	60.10	30.91	24.64	67.50	36.95	61.81
Lane Group LOS	E	D	D	F	C	C	E	C	C	E	D	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.37	13.46	13.01	13.70	4.45	1.75	9.18	8.81	0.90	2.11	2.54	10.67
50th-Percentile Queue Length [ft/ln]	34.26	336.49	325.28	342.53	111.24	43.80	229.45	220.16	22.57	52.69	63.38	266.76
95th-Percentile Queue Length [veh/ln]	2.47	19.48	18.93	20.68	7.91	3.15	14.15	13.67	1.62	3.79	4.56	16.03
95th-Percentile Queue Length [ft/ln]	61.67	486.91	473.17	516.97	197.73	78.84	353.66	341.83	40.62	94.84	114.08	400.68

Movement, Approach, & Intersection Results

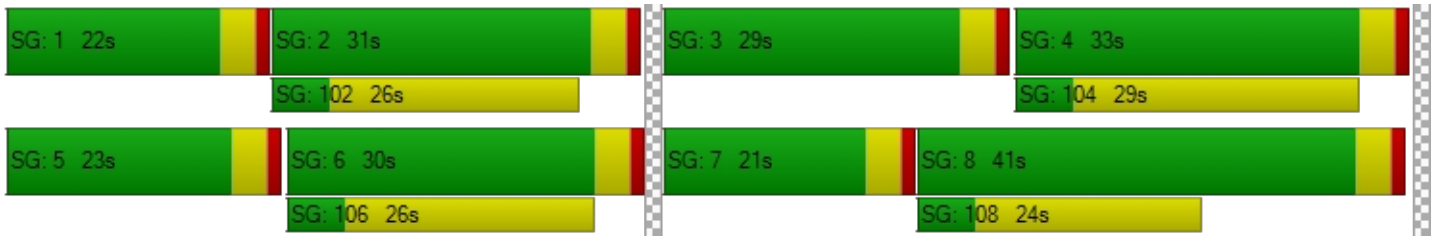
d_M, Delay for Movement [s/veh]	69.01	50.46	50.71	113.07	22.48	20.69	60.10	30.91	24.64	67.50	36.95	61.81
Movement LOS	E	D	D	F	C	C	E	C	C	E	D	E
d_A, Approach Delay [s/veh]	51.29			54.47			42.03			53.49		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	50.50											
Intersection LOS	D											
Intersection V/C	0.787											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.85	48.85	48.85	48.85
l_p,int, Pedestrian LOS Score for Intersection	2.656	2.988	2.551	2.860
Crosswalk LOS	B	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	452	470	643	504
d_b, Bicycle Delay [s]	34.44	33.67	26.45	32.19
l_b,int, Bicycle LOS Score for Intersection	2.338	2.334	2.774	2.140
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 SB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	19.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.577

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	2	0	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	685.00	100.00	100.00	290.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	403	4	395	0	833	648	278	738	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	17	0	0	0	18	0	20	16	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	103	0	0	169	0	0	0
Total Hourly Volume [veh/h]	0	0	0	436	4	308	0	884	505	309	784	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8680	0.8680	0.8680	1.0000	0.9640	0.9640	0.8490	0.8490	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	126	1	89	0	229	131	91	231	0
Total Analysis Volume [veh/h]	0	0	0	502	5	355	0	917	524	364	923	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	34	0	0	27	0	9	36	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	18	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	R	L	C
C, Cycle Length [s]		70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		22	22	22	26	26	10	40
g / C, Green / Cycle		0.31	0.31	0.31	0.38	0.38	0.14	0.58
(v / s)_i Volume / Saturation Flow Rate		0.14	0.14	0.13	0.18	0.33	0.11	0.18
s, saturation flow rate [veh/h]		1781	1783	2813	5094	1589	3459	5094
c, Capacity [veh/h]		552	552	872	1916	598	493	2933
d1, Uniform Delay [s]		19.44	19.43	19.08	16.61	20.32	28.76	7.69
k, delay calibration		0.50	0.50	0.50	0.11	0.28	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		2.74	2.73	1.41	0.19	10.15	2.19	0.06
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.46	0.46	0.41	0.48	0.88	0.74	0.31
d, Delay for Lane Group [s/veh]		22.17	22.17	20.49	16.79	30.46	30.96	7.75
Lane Group LOS		C	C	C	B	C	C	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		3.54	3.54	2.31	3.48	8.91	2.95	2.03
50th-Percentile Queue Length [ft/ln]		88.42	88.43	57.83	86.97	222.79	73.81	50.68
95th-Percentile Queue Length [veh/ln]		6.37	6.37	4.16	6.26	13.81	5.31	3.65
95th-Percentile Queue Length [ft/ln]		159.16	159.18	104.10	156.55	345.19	132.86	91.22

Movement, Approach, & Intersection Results

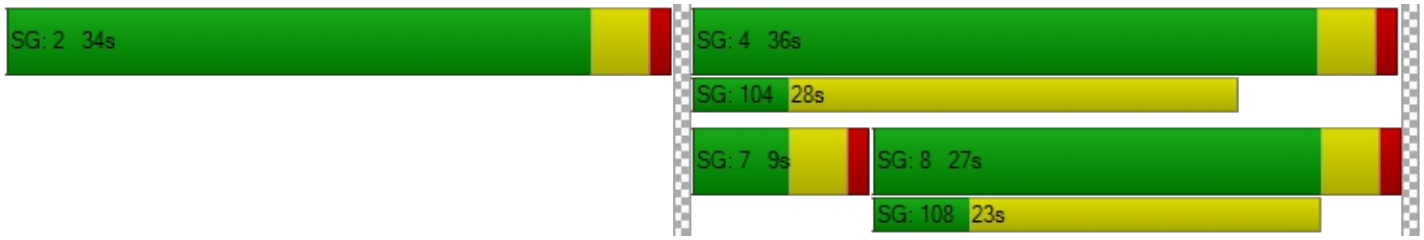
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	22.17	22.17	20.49	0.00	16.79	30.46	30.96	7.75	0.00
Movement LOS				C	C	C		B	C	C	A	
d_A, Approach Delay [s/veh]	0.00			21.48			21.77			14.31		
Approach LOS	A			C			C			B		
d_I, Intersection Delay [s/veh]	19.02											
Intersection LOS	B											
Intersection V/C	0.577											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.221	2.623	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	857	657	914
d_b, Bicycle Delay [s]	35.00	11.43	15.78	10.31
l_b,int, Bicycle LOS Score for Intersection	4.132	3.152	2.445	2.267
Bicycle LOS	D	C	B	B

Sequence

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: I-15 NB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	685.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	305.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	277	1	261	0	0	0	374	859	0	0	741	581
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	18	0	0	0	0	35	0	10	36	26
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	72	0	0	0	0	0	0	0	0	158
Total Hourly Volume [veh/h]	288	1	217	0	0	0	389	928	0	10	807	472
Peak Hour Factor	0.9293	0.9293	0.9293	1.0000	1.0000	1.0000	0.9427	0.9427	1.0000	1.0000	0.8518	0.8518
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	0	58	0	0	0	103	246	0	3	237	139
Total Analysis Volume [veh/h]	310	1	234	0	0	0	413	984	0	10	947	554
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			1		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	17	0	0	0	0	12	43	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	20	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		L	C	C	R
C, Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	16		8	36	24	24
g / C, Green / Cycle	0.27	0.27	0.27		0.13	0.60	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.11		0.12	0.19	0.19	0.35
s, saturation flow rate [veh/h]	1781	1710	1589		3459	5094	5094	1588
c, Capacity [veh/h]	472	453	421		461	3065	2046	638
d1, Uniform Delay [s]	18.16	18.16	18.16		25.59	5.90	13.19	16.48
k, delay calibration	0.50	0.50	0.50		0.11	0.11	0.11	0.23
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.57	2.68	2.88		6.37	0.06	0.16	7.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.40	0.41		0.90	0.32	0.46	0.87
d, Delay for Lane Group [s/veh]	20.72	20.83	21.04		31.96	5.96	13.35	24.03
Lane Group LOS	C	C	C		C	A	B	C
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.34	2.26	2.12		3.12	1.55	2.79	7.38
50th-Percentile Queue Length [ft/ln]	58.39	56.44	53.10		77.97	38.76	69.65	184.49
95th-Percentile Queue Length [veh/ln]	4.20	4.06	3.82		5.61	2.79	5.02	11.83
95th-Percentile Queue Length [ft/ln]	105.11	101.59	95.59		140.35	69.77	125.38	295.87

Movement, Approach, & Intersection Results

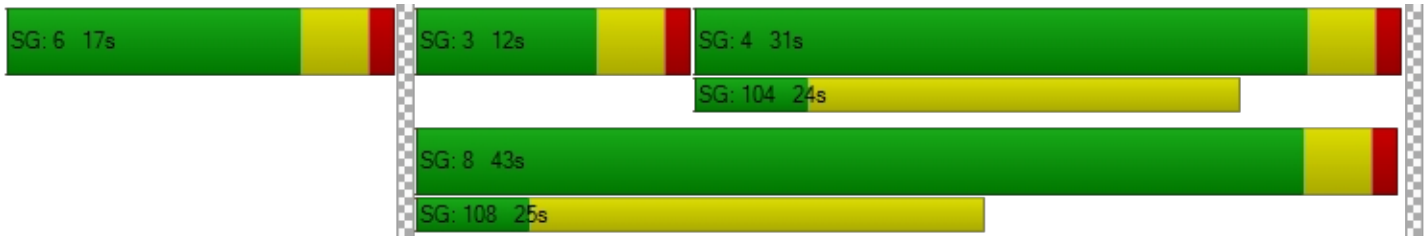
d_M, Delay for Movement [s/veh]	20.77	20.83	20.99	0.00	0.00	0.00	31.96	5.96	0.00	0.00	13.35	24.03
Movement LOS	C	C	C				C	A			B	C
d_A, Approach Delay [s/veh]	20.86			0.00			13.64			17.29		
Approach LOS	C			A			B			B		
d_I, Intersection Delay [s/veh]	16.38											
Intersection LOS	B											
Intersection V/C	0.576											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	5942.53	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.365	2.244	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	0	1300	900
d_b, Bicycle Delay [s]	18.41	30.00	3.68	9.08
l_b,int, Bicycle LOS Score for Intersection	2.578	4.132	2.328	2.472
Bicycle LOS	B	D	B	B

Sequence

Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Clinton Keith Rd/Arya Rd

Control Type:	Signalized	Delay (sec / veh):	36.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	285.00	100.00	100.00	315.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	160	2	66	10	3	53	63	882	174	90	1069	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	8	0	52	29	24	0	0	20	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	27	0	0	45	0	0	11
Total Hourly Volume [veh/h]	166	2	52	18	3	80	95	941	136	94	1132	34
Peak Hour Factor	0.8507	0.8507	0.8507	0.8684	0.8684	0.8684	0.9024	0.9024	0.9024	0.8366	0.8366	0.8366
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	1	15	5	1	23	26	261	38	28	338	10
Total Analysis Volume [veh/h]	195	2	61	21	3	92	105	1043	151	112	1353	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			1			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			1			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	0	0	40	0	19	30	0	35	46	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	31	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	54	54	54	8	31	31	8	32	32
g / C, Green / Cycle	0.51	0.51	0.51	0.07	0.29	0.29	0.08	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.27	0.04	0.14	0.06	0.22	0.22	0.06	0.26	0.26
s, saturation flow rate [veh/h]	730	1589	820	1781	3560	1751	1781	3560	1842
c, Capacity [veh/h]	441	811	459	133	1049	516	144	1070	554
d1, Uniform Delay [s]	23.70	13.09	16.94	47.77	33.70	33.70	47.34	34.61	34.61
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.13
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.26	0.18	1.32	9.94	1.18	2.38	8.77	2.13	4.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.08	0.25	0.79	0.76	0.76	0.78	0.86	0.86
d, Delay for Lane Group [s/veh]	26.96	13.27	18.26	57.71	34.87	36.08	56.12	36.73	39.42
Lane Group LOS	C	B	B	E	C	D	E	D	D
Critical Lane Group	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.56	0.76	1.59	3.06	9.29	9.33	3.21	11.16	11.96
50th-Percentile Queue Length [ft/ln]	114.11	19.08	39.76	76.43	232.36	233.13	80.30	278.98	298.99
95th-Percentile Queue Length [veh/ln]	8.07	1.37	2.86	5.50	14.29	14.33	5.78	16.64	17.63
95th-Percentile Queue Length [ft/ln]	201.70	34.34	71.56	137.58	357.36	358.33	144.54	415.94	440.78

Movement, Approach, & Intersection Results

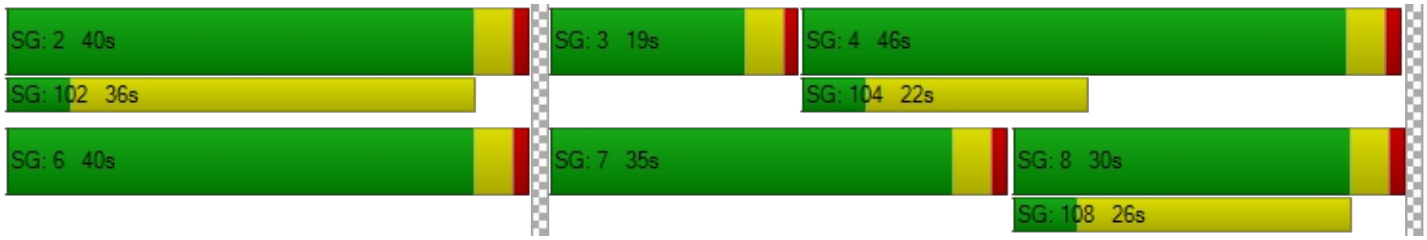
d_M, Delay for Movement [s/veh]	26.96	26.96	13.27	18.26	18.26	18.26	57.71	35.16	36.08	56.12	37.60	39.42
Movement LOS	C	C	B	B	B	B	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	23.72			18.26			37.09			39.02		
Approach LOS	C			B			D			D		
d_I, Intersection Delay [s/veh]	36.23											
Intersection LOS	D											
Intersection V/C	0.587											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	6485.45	0.00
d_p, Pedestrian Delay [s]	43.89	43.89	43.89	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.164	1.909	3.364	0.000
Crosswalk LOS	B	A	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	686	686	495	800
d_b, Bicycle Delay [s]	22.67	22.67	29.72	18.90
l_b,int, Bicycle LOS Score for Intersection	2.013	1.796	2.299	2.394
Bicycle LOS	B	A	B	B

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Arya Rd/Catt Rd

Control Type:	All-way stop	Delay (sec / veh):	7.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.186

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	109	0	0	109	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	33	0	0	60	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	33	0	113	60	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	9	0	30	16	0
Total Analysis Volume [veh/h]	119	35	0	119	63	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	829	955	781
Degree of Utilization, x	0.19	0.12	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.68	0.43	0.26
95th-Percentile Queue Length [ft]	16.96	10.63	6.57
Approach Delay [s/veh]	8.33	7.30	8.02
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.91		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 11: Wildomar Trl/Proj Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.047

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	209	350	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	94	52	6	0	28
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	311	416	6	0	28
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	82	109	2	0	7
Total Analysis Volume [veh/h]	0	327	438	6	0	29
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.05
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.13
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.15
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	3.70
d_A, Approach Delay [s/veh]	0.00		0.00		11.13	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.40					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Wildomar Trl/Proj Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	209	350	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	94	0	16	0	5	42
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	94	217	380	0	5	42
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	57	100	0	1	11
Total Analysis Volume [veh/h]	99	228	400	0	5	44
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.02	0.07
d_M, Delay for Movement [s/veh]	8.40	0.00	0.00	0.00	17.24	11.10
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.28	0.28	0.00	0.00	0.27	0.27
95th-Percentile Queue Length [ft/ln]	6.99	6.99	0.00	0.00	6.84	6.84
d_A, Approach Delay [s/veh]	2.54		0.00		11.73	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.81					
Intersection LOS	C					

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Project Completion AM.pdf

Scenario 13 Project Completion AM
5/9/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Clinton Keith Rd/Wildomar Trl	50	21	37	169	29	232	164	834	23	55	988	118	2720

ID	Intersection Name	Northbound		Eastbound			Westbound		Total Volume
		Left	Right	U-T	Thru	Right	Left	Thru	
2	Inland Valley Dr/Clinton Keith Rd	286	30	0	606	445	107	891	2365

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Nutmeg St/Clinton Keith Rd	101	38	330	105	61	43	32	576	121	400	755	71	2633

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
4	California Oaks Rd/Clinton Keith Rd	108	402	855	168	642	1116	3291

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Nutmeg St/Jackson Ave	75	139	131	107	241	69	60	312	144	259	343	83	1963

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Palomar Rd/Clinton Keith Rd	34	661	110	292	439	121	215	292	50	56	193	405	2868

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
7	I-15 SB Ramps/Clinton Keith Rd	436	4	411	884	674	309	784	3502

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
8	I-15 NB Ramps/Clinton Keith Rd	288	1	289	389	928	807	630	3332

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
9	Clinton Keith Rd/Arya Rd	166	2	69	18	3	107	95	941	181	94	1132	45	2853

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
10	Arya Rd/Catt Rd	113	33	0	113	60	0	319

ID	Intersection Name	Northbound	Southbound		Eastbound	Total Volume
		Thru	Thru	Right	Right	
11	Wildomar Trl/Proj Dwy 3	311	416	6	28	761

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
12	Wildomar Trl/Proj Dwy 4	94	217	380	0	5	42	738

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Project Completion PM.pdf

Scenario 14 Project Completion PM
5/9/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Clinton Keith Rd/Wildomar Trl	Signalized	HCM 6th Edition	EB Left	0.629	30.5	C
2	Inland Valley Dr/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.852	39.0	D
3	Nutmeg St/Clinton Keith Rd	Signalized	HCM 6th Edition	EB Left	0.615	25.8	C
4	California Oaks Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.812	35.3	D
5	Nutmeg St/Jackson Ave	Signalized	HCM 6th Edition	EB Left	0.387	26.6	C
6	Palomar Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	SB Left	0.651	39.3	D
7	I-15 SB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.522	21.3	C
8	I-15 NB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	EB Left	0.650	19.6	B
9	Clinton Keith Rd/Arya Rd	Signalized	HCM 6th Edition	NB Left	1.320	84.1	F
10	Arya Rd/Catt Rd	All-way stop	HCM 6th Edition	NB Left	0.161	7.7	A
11	Wildomar Trl/Proj Dwy 3	Two-way stop	HCM 6th Edition	EB Right	0.070	10.6	B
12	Wildomar Trl/Proj Dwy 4	Two-way stop	HCM 6th Edition	EB Left	0.032	18.5	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Clinton Keith Rd/Wildomar Trl

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	95.00	100.00	100.00	165.00	100.00	100.00	330.00	100.00	255.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	54	27	68	83	32	132	182	1040	21	120	1059	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	98	0	34	36	8	0	0	7	104
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	18	0	0	43	0	0	6	0	0	42
Total Hourly Volume [veh/h]	56	28	53	184	33	128	225	1090	16	125	1108	124
Peak Hour Factor	0.9551	0.9551	0.9551	0.9216	0.9216	0.9216	0.9007	0.9007	0.9007	0.9246	0.9246	0.9246
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	7	14	50	9	35	62	303	4	34	300	34
Total Analysis Volume [veh/h]	59	29	55	200	36	139	250	1210	18	135	1198	134
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	46	0	0	46	0	33	54	0	40	61	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	33	0	0	19	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31	31	31	31	22	84	84	13	75	75
g / C, Green / Cycle	0.22	0.22	0.22	0.22	0.22	0.15	0.60	0.60	0.09	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.05	0.05	0.15	0.02	0.09	0.14	0.23	0.23	0.08	0.34	0.08
s, saturation flow rate [veh/h]	1209	1676	1314	1870	1589	1781	3560	1856	1781	3560	1589
c, Capacity [veh/h]	288	375	274	419	356	276	2136	1113	161	1907	851
d1, Uniform Delay [s]	47.66	44.38	56.94	42.98	46.19	58.17	14.49	14.49	62.67	22.77	16.50
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.20	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	0.30	3.71	0.09	0.70	17.65	0.51	0.98	10.95	1.58	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.22	0.73	0.09	0.39	0.91	0.38	0.38	0.84	0.63	0.16
d, Delay for Lane Group [s/veh]	48.00	44.67	60.64	43.07	46.89	75.82	15.00	15.47	73.62	24.35	16.89
Lane Group LOS	D	D	E	D	D	E	B	B	E	C	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.79	2.45	7.22	1.01	4.23	10.07	6.76	7.19	5.24	14.11	2.31
50th-Percentile Queue Length [ft/ln]	44.77	61.15	180.59	25.31	105.71	251.79	168.99	179.79	130.88	352.78	57.82
95th-Percentile Queue Length [veh/ln]	3.22	4.40	11.63	1.82	7.60	15.28	11.02	11.59	8.99	20.27	4.16
95th-Percentile Queue Length [ft/ln]	80.59	110.07	290.79	45.56	190.02	381.91	275.58	289.74	224.69	506.80	104.08

Movement, Approach, & Intersection Results

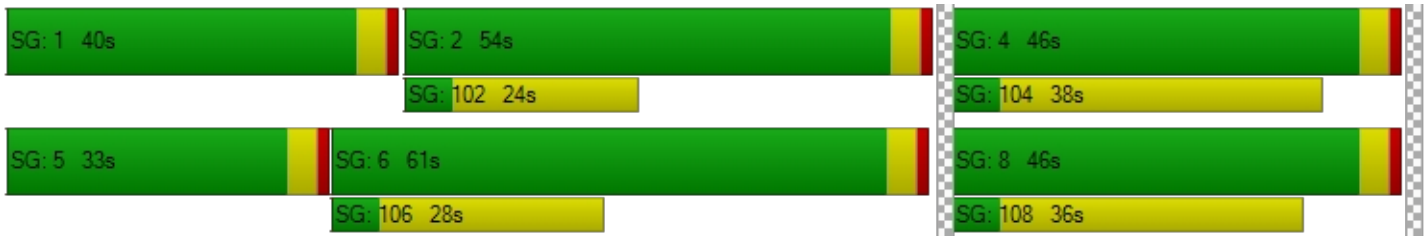
d_M, Delay for Movement [s/veh]	48.00	44.67	44.67	60.64	43.07	46.89	75.82	15.15	15.47	73.62	24.35	16.89
Movement LOS	D	D	D	E	D	D	E	B	B	E	C	B
d_A, Approach Delay [s/veh]	46.05			53.86			25.42			28.20		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.53											
Intersection LOS	C											
Intersection V/C	0.629											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	61.29	61.29	61.29	61.29
l_p,int, Pedestrian LOS Score for Intersection	2.104	2.427	3.043	3.377
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	714	814
d_b, Bicycle Delay [s]	34.30	34.30	28.93	24.60
l_b,int, Bicycle LOS Score for Intersection	1.825	2.249	2.376	2.805
Bicycle LOS	A	B	B	C

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Inland Valley Dr/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	39.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.852

Intersection Setup

Name							
Approach	Northbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	U-turn	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1	0
Entry Pocket Length [ft]	100.00	185.00	300.00	100.00	100.00	225.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	147.11
Speed [mph]	30.00		30.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		Yes			Yes	

Volumes

Name							
Base Volume Input [veh/h]	416	106	0	876	273	20	845
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	36	0	0	72	34	0	75
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	28	0	0	80	0	0
Total Hourly Volume [veh/h]	469	82	0	983	238	21	954
Peak Hour Factor	0.8060	0.8060	0.9286	0.9286	0.9286	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	145	25	0	265	64	5	246
Total Analysis Volume [veh/h]	582	102	0	1059	256	22	982
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		1			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	5	2	0	1	6
Auxiliary Signal Groups							
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	0	5	10	0	5	10
Maximum Green [s]	30	0	30	30	0	30	30
Amber [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	54	0	9	83	0	13	87
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	0	5	0	0	5
Pedestrian Clearance [s]	21	0	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No	No		No	No
Maximum Recall	No		No	No		No	No
Pedestrian Recall	No		No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	R	L	C
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	50	50	0	85	85	3	88
g / C, Green / Cycle	0.33	0.33	0.00	0.57	0.57	0.02	0.59
(v / s)_i Volume / Saturation Flow Rate	0.33	0.06	0.00	0.30	0.16	0.01	0.53
s, saturation flow rate [veh/h]	1781	1589	1781	3560	1570	1781	1870
c, Capacity [veh/h]	594	530	2	2013	888	38	1095
d1, Uniform Delay [s]	49.51	35.62	0.00	20.16	16.88	72.74	27.12
k, delay calibration	0.46	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	30.76	0.17	0.00	0.99	0.82	13.32	11.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.98	0.19	0.00	0.53	0.29	0.58	0.90
d, Delay for Lane Group [s/veh]	80.27	35.79	0.00	21.15	17.70	86.06	38.57
Lane Group LOS	F	D	A	C	B	F	D
Critical Lane Group	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	26.59	2.74	0.00	11.73	4.84	0.98	33.18
50th-Percentile Queue Length [ft/ln]	664.82	68.48	0.00	293.25	120.99	24.62	829.46
95th-Percentile Queue Length [veh/ln]	35.05	4.93	0.00	17.35	8.45	1.77	42.63
95th-Percentile Queue Length [ft/ln]	876.25	123.26	0.00	433.68	211.19	44.31	1065.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	80.27	35.79	0.00	21.15	17.70	86.06	38.57
Movement LOS	F	D	A	C	B	F	D
d_A, Approach Delay [s/veh]	73.64		20.48			39.61	
Approach LOS	E		C			D	
d_I, Intersection Delay [s/veh]	38.98						
Intersection LOS	D						
Intersection V/C	0.852						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.27	66.27	66.27
l_p,int, Pedestrian LOS Score for Intersection	2.457	3.073	2.753
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	1053	1107
d_b, Bicycle Delay [s]	33.33	16.81	14.96
l_b,int, Bicycle LOS Score for Intersection	1.560	2.710	3.216
Bicycle LOS	A	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Nutmeg St/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	25.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.615

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	190.00	100.00	100.00	65.00	100.00	100.00	215.00	100.00	100.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	67	50	280	80	49	23	55	809	74	285	757	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	0	0	0	18	17	29	9	0	30	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	73	0	0	11	0	0	22	0	0	27
Total Hourly Volume [veh/h]	79	52	218	83	51	31	74	870	64	296	817	80
Peak Hour Factor	0.8862	0.8862	0.8862	0.8444	0.8444	0.8444	0.9306	0.9306	0.9306	0.8945	0.8945	0.8945
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	15	62	25	15	9	20	234	17	83	228	22
Total Analysis Volume [veh/h]	89	59	246	98	60	37	80	935	69	331	913	89
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			4			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	22	46	0	24	48	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	18	18	18	18	6	50	50	20	64	64
g / C, Green / Cycle	0.18	0.18	0.18	0.18	0.18	0.06	0.50	0.50	0.20	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.07	0.03	0.16	0.09	0.06	0.04	0.27	0.27	0.19	0.27	0.27
s, saturation flow rate [veh/h]	1298	1870	1568	1074	1739	1781	1870	1819	1781	1870	1812
c, Capacity [veh/h]	217	333	279	215	310	105	938	913	356	1202	1165
d1, Uniform Delay [s]	42.38	34.87	39.95	41.35	35.77	46.37	17.04	17.06	39.31	8.75	8.76
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.17	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.24	0.25	8.80	1.51	0.57	10.85	2.24	2.32	15.35	1.09	1.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.18	0.88	0.46	0.31	0.76	0.54	0.54	0.93	0.42	0.42
d, Delay for Lane Group [s/veh]	43.62	35.12	48.76	42.86	36.34	57.22	19.28	19.38	54.66	9.84	9.90
Lane Group LOS	D	D	D	D	D	E	B	B	D	A	A
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.16	1.24	6.49	2.38	2.10	2.26	8.22	8.06	9.38	5.26	5.14
50th-Percentile Queue Length [ft/ln]	53.95	30.96	162.22	59.40	52.46	56.62	205.55	201.40	234.53	131.44	128.43
95th-Percentile Queue Length [veh/ln]	3.88	2.23	10.67	4.28	3.78	4.08	12.92	12.71	14.40	9.02	8.85
95th-Percentile Queue Length [ft/ln]	97.11	55.73	266.66	106.93	94.42	101.92	323.11	317.77	360.11	225.45	221.35

Movement, Approach, & Intersection Results

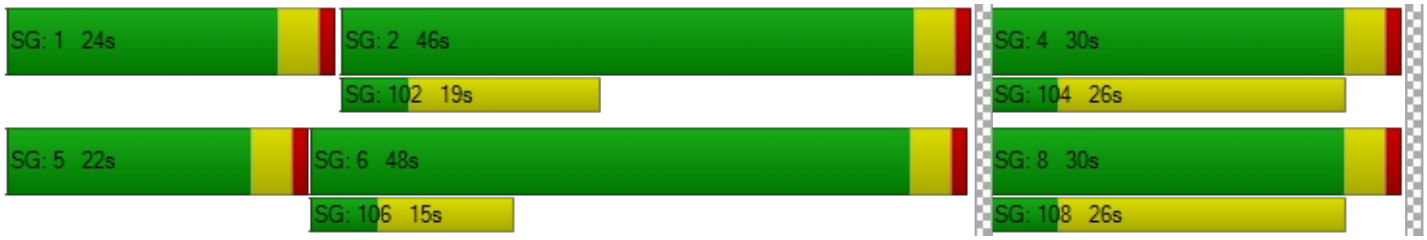
d_M, Delay for Movement [s/veh]	43.62	35.12	48.76	42.86	36.34	36.34	57.22	19.32	19.38	54.66	9.86	9.90
Movement LOS	D	D	D	D	D	D	E	B	B	D	A	A
d_A, Approach Delay [s/veh]	45.55			39.61			22.12			20.99		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	25.83											
Intersection LOS	C											
Intersection V/C	0.615											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	2.473	2.112	2.968	3.078
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	520	520	840	880
d_b, Bicycle Delay [s]	27.39	27.43	16.83	15.68
l_b,int, Bicycle LOS Score for Intersection	2.330	1.900	2.472	2.682
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: California Oaks Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	35.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.812

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	275.00	100.00	100.00	100.00	255.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	159	688	1062	112	399	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	9	0	20	9	0	21
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	179	0	31	0	0
Total Hourly Volume [veh/h]	174	537	1124	94	415	1029
Peak Hour Factor	0.9287	0.9287	0.9317	0.9317	0.8724	0.8724
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	145	302	25	119	295
Total Analysis Volume [veh/h]	187	578	1206	101	476	1179
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		1		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	2		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Split [s]	26	0	41	0	28	69
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	17	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	C	L	C
C, Cycle Length [s]	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	20	20	39	39	24	67
g / C, Green / Cycle	0.21	0.21	0.21	0.41	0.41	0.25	0.71
(v / s)_i Volume / Saturation Flow Rate	0.11	0.18	0.19	0.35	0.36	0.27	0.33
s, saturation flow rate [veh/h]	1777	1589	1552	1870	1820	1781	3560
c, Capacity [veh/h]	370	331	323	772	752	450	2519
d1, Uniform Delay [s]	33.28	36.40	36.40	25.17	25.55	35.50	6.07
k, delay calibration	0.11	0.14	0.15	0.50	0.50	0.34	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.07	9.01	11.37	11.08	13.06	51.23	0.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.87	0.89	0.85	0.87	1.06	0.47
d, Delay for Lane Group [s/veh]	34.35	45.41	47.77	36.25	38.61	86.73	6.70
Lane Group LOS	C	D	D	D	D	F	A
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.88	7.20	7.39	15.02	15.55	16.54	4.45
50th-Percentile Queue Length [ft/ln]	96.99	180.00	184.80	375.40	388.87	413.47	111.36
95th-Percentile Queue Length [veh/ln]	6.98	11.60	11.85	21.37	22.02	23.99	7.92
95th-Percentile Queue Length [ft/ln]	174.59	290.01	296.28	534.28	550.57	599.63	197.89

Movement, Approach, & Intersection Results

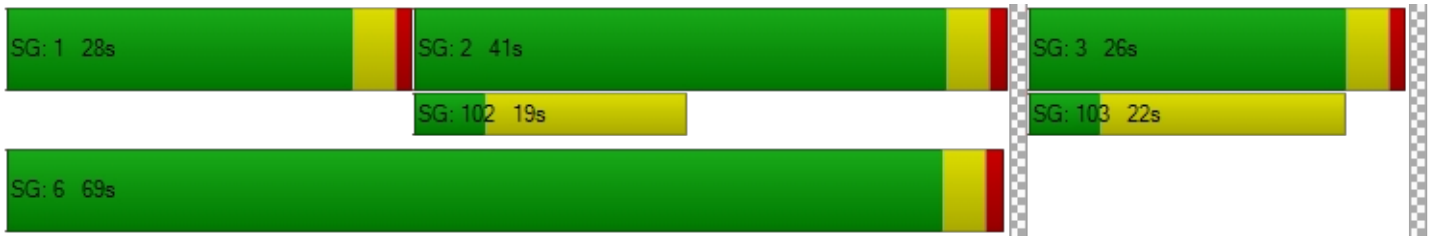
d_M, Delay for Movement [s/veh]	34.35	46.59	37.33	38.61	86.73	6.70
Movement LOS	C	D	D	D	F	A
d_A, Approach Delay [s/veh]	43.60		37.43		29.72	
Approach LOS	D		D		C	
d_I, Intersection Delay [s/veh]	35.27					
Intersection LOS	D					
Intersection V/C	0.812					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	38.93
l_p,int, Pedestrian LOS Score for Intersection	2.768	2.838	3.010
Crosswalk LOS	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	463	779	1368
d_b, Bicycle Delay [s]	28.08	17.71	4.74
l_b,int, Bicycle LOS Score for Intersection	3.117	2.663	2.925
Bicycle LOS	C	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Nutmeg St/Jackson Ave

Control Type:	Signalized	Delay (sec / veh):	26.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.387

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	200.00	100.00	100.00	195.00	100.00	100.00	210.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	107	214	192	110	208	42	36	212	83	126	261	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	18	0	0	17	17	18	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	50	0	0	15	0	0	22	0	0	18
Total Hourly Volume [veh/h]	111	241	150	114	233	46	55	220	64	131	271	54
Peak Hour Factor	0.9430	0.9430	0.9430	0.8330	0.8330	0.8330	0.9300	0.9300	0.9300	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	64	40	34	70	14	15	59	17	36	75	15
Total Analysis Volume [veh/h]	118	256	159	137	280	55	59	237	69	145	300	60
Presence of On-Street Parking	No		No	No		No	No		Yes	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			2			1		
v_co, Outbound Pedestrian Volume crossing	3			2			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			2			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			1			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	11	26	0	15	26	0	12	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	34	34	7	35	35	4	10	10	8	14	14
g / C, Green / Cycle	0.08	0.45	0.45	0.09	0.46	0.46	0.05	0.14	0.14	0.10	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.07	0.14	0.10	0.08	0.09	0.09	0.03	0.09	0.09	0.08	0.10	0.10
s, saturation flow rate [veh/h]	1781	1870	1566	1781	1870	1756	1781	1870	1534	1781	1870	1762
c, Capacity [veh/h]	150	847	710	166	865	812	87	260	213	180	358	337
d1, Uniform Delay [s]	33.70	12.99	12.46	33.40	11.92	11.95	35.10	30.49	30.62	32.98	27.19	27.24
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.90	0.92	0.73	9.76	0.51	0.56	8.97	2.56	3.49	8.13	1.14	1.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.30	0.22	0.82	0.20	0.20	0.68	0.63	0.66	0.80	0.51	0.52
d, Delay for Lane Group [s/veh]	42.60	13.91	13.19	43.16	12.43	12.51	44.06	33.06	34.11	41.10	28.34	28.49
Lane Group LOS	D	B	B	D	B	B	D	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.42	2.73	1.64	2.83	1.68	1.62	1.25	2.91	2.55	2.91	2.97	2.85
50th-Percentile Queue Length [ft/ln]	60.42	68.29	41.06	70.66	42.08	40.61	31.26	72.83	63.72	72.68	74.16	71.19
95th-Percentile Queue Length [veh/ln]	4.35	4.92	2.96	5.09	3.03	2.92	2.25	5.24	4.59	5.23	5.34	5.13
95th-Percentile Queue Length [ft/ln]	108.76	122.91	73.91	127.18	75.74	73.09	56.27	131.10	114.69	130.83	133.48	128.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.60	13.91	13.19	43.16	12.46	12.51	44.06	33.38	34.11	41.10	28.40	28.49
Movement LOS	D	B	B	D	B	B	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	20.05			21.38			35.24			32.06		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	26.57											
Intersection LOS	C											
Intersection V/C	0.387											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.04	29.04	29.04	29.04
l_p,int, Pedestrian LOS Score for Intersection	2.578	2.359	2.494	2.534
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	587	587	587	507
d_b, Bicycle Delay [s]	18.75	18.74	18.74	20.91
l_b,int, Bicycle LOS Score for Intersection	2.522	1.961	1.879	1.991
Bicycle LOS	B	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Palomar Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	39.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	27.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	265.00	100.00	100.00	300.00	100.00	190.00	150.00	100.00	105.00	205.00	100.00	205.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	52	692	66	257	622	227	187	108	37	69	267	258
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	0	0	10	17	18	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	63	0	0	10	0	0	67
Total Hourly Volume [veh/h]	54	729	52	267	657	190	212	112	28	72	278	201
Peak Hour Factor	0.9507	0.9507	0.9507	0.9130	0.9130	0.9130	0.9330	0.9330	0.9330	0.9399	0.9399	0.9399
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	192	14	73	180	52	57	30	8	19	74	53
Total Analysis Volume [veh/h]	57	767	55	292	720	208	227	120	30	77	296	214
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			1		
v_co, Outbound Pedestrian Volume crossing	0			1			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			1			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			1			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	22	42	0	30	28	0	35	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	19	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	46	46	18	59	59	17	29	29	7	18	18
g / C, Green / Cycle	0.04	0.40	0.40	0.16	0.51	0.51	0.15	0.25	0.25	0.06	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.03	0.22	0.22	0.16	0.20	0.13	0.13	0.06	0.02	0.04	0.08	0.14
s, saturation flow rate [veh/h]	1781	1870	1826	1781	3560	1589	1781	1870	1632	1781	3560	1561
c, Capacity [veh/h]	73	746	728	279	1830	817	259	464	405	102	570	250
d1, Uniform Delay [s]	54.60	26.72	26.73	48.50	17.02	15.62	48.12	34.72	33.09	53.42	44.24	46.88
k, delay calibration	0.11	0.50	0.50	0.18	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.87	3.00	3.07	45.30	0.64	0.75	9.14	0.29	0.08	10.75	0.73	8.24
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.56	0.56	1.05	0.39	0.25	0.88	0.26	0.07	0.76	0.52	0.86
d, Delay for Lane Group [s/veh]	70.47	29.72	29.79	93.80	17.65	16.37	57.26	35.01	33.17	64.16	44.98	55.12
Lane Group LOS	E	C	C	F	B	B	E	D	C	E	D	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.96	9.34	9.14	11.46	5.86	3.19	7.01	2.75	0.65	2.50	3.92	6.49
50th-Percentile Queue Length [ft/ln]	48.93	233.57	228.54	286.48	146.51	79.82	175.25	68.63	16.35	62.44	98.11	162.37
95th-Percentile Queue Length [veh/ln]	3.52	14.36	14.10	17.39	9.83	5.75	11.35	4.94	1.18	4.50	7.06	10.67
95th-Percentile Queue Length [ft/ln]	88.08	358.89	352.51	434.78	245.76	143.67	283.80	123.54	29.42	112.39	176.59	266.86

Movement, Approach, & Intersection Results

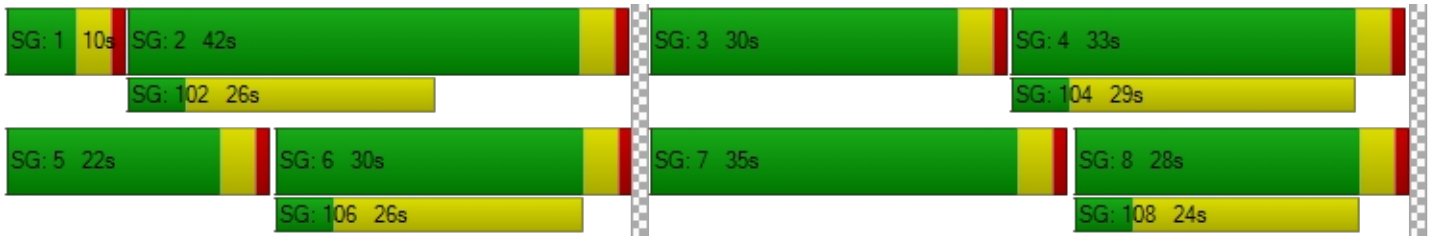
d_M, Delay for Movement [s/veh]	70.47	29.75	29.79	93.80	17.65	16.37	57.26	35.01	33.17	64.16	44.98	55.12
Movement LOS	E	C	C	F	B	B	E	D	C	E	D	E
d_A, Approach Delay [s/veh]	32.40			35.66			48.26			51.19		
Approach LOS	C			D			D			D		
d_I, Intersection Delay [s/veh]	39.25											
Intersection LOS	D											
Intersection V/C	0.651											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.85	48.85	48.85	48.85
l_p,int, Pedestrian LOS Score for Intersection	2.675	3.053	2.524	2.746
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	452	661	417	504
d_b, Bicycle Delay [s]	34.44	25.78	36.02	32.20
l_b,int, Bicycle LOS Score for Intersection	2.299	2.618	2.198	2.099
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 SB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	2	0	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	685.00	100.00	100.00	290.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	514	6	399	0	933	520	261	1178	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	27	0	0	0	27	0	16	27	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	104	0	0	135	0	0	0
Total Hourly Volume [veh/h]	0	0	0	562	6	311	0	997	406	287	1252	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9490	0.9490	0.9490	1.0000	0.9580	0.9580	0.9570	0.9570	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	148	2	82	0	260	106	75	327	0
Total Analysis Volume [veh/h]	0	0	0	592	6	328	0	1041	424	300	1308	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			1			0		
v_di, Inbound Pedestrian Volume crossing m	1			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	32	0	0	31	0	17	48	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	18	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	R	L	C
C, Cycle Length [s]		80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		33	33	33	25	25	10	39
g / C, Green / Cycle		0.41	0.41	0.41	0.32	0.32	0.12	0.49
(v / s)_i Volume / Saturation Flow Rate		0.17	0.17	0.12	0.20	0.27	0.09	0.26
s, saturation flow rate [veh/h]		1781	1783	2778	5094	1588	3459	5094
c, Capacity [veh/h]		735	736	1147	1613	503	417	2482
d1, Uniform Delay [s]		16.58	16.58	15.62	23.47	25.47	33.88	14.15
k, delay calibration		0.50	0.50	0.50	0.11	0.24	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.67	1.66	0.63	0.44	8.24	2.35	0.17
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.41	0.41	0.29	0.65	0.84	0.72	0.53
d, Delay for Lane Group [s/veh]		18.25	18.24	16.24	23.91	33.71	36.23	14.32
Lane Group LOS		B	B	B	C	C	D	B
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		3.98	3.98	1.98	5.43	8.27	2.88	5.05
50th-Percentile Queue Length [ft/ln]		99.59	99.58	49.55	135.79	206.66	71.90	126.21
95th-Percentile Queue Length [veh/ln]		7.17	7.17	3.57	9.25	12.98	5.18	8.73
95th-Percentile Queue Length [ft/ln]		179.26	179.24	89.20	231.35	324.54	129.42	218.33

Movement, Approach, & Intersection Results

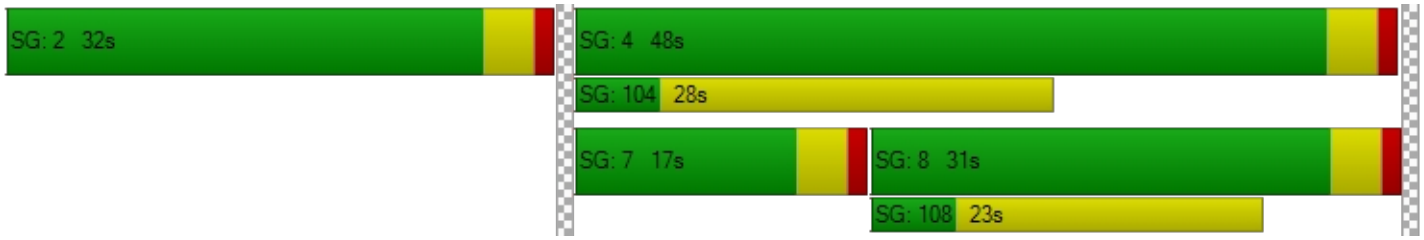
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	18.24	18.24	16.24	0.00	23.91	33.71	36.23	14.32	0.00
Movement LOS				B	B	B		C	C	D	B	
d_A, Approach Delay [s/veh]	0.00			17.54			26.74			18.41		
Approach LOS	A			B			C			B		
d_I, Intersection Delay [s/veh]	21.26											
Intersection LOS	C											
Intersection V/C	0.522											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	3895.87	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.132	2.644	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	700	675	1100
d_b, Bicycle Delay [s]	40.00	16.91	17.56	8.10
l_b,int, Bicycle LOS Score for Intersection	4.132	3.259	2.440	2.444
Bicycle LOS	D	C	B	B

Sequence

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: I-15 NB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.650

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	685.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	305.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	561	0	370	0	0	0	347	1098	0	0	879	614
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	28	0	0	0	0	54	0	17	43	31
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	103	0	0	0	0	0	0	0	0	168
Total Hourly Volume [veh/h]	583	0	310	0	0	0	361	1196	0	17	957	502
Peak Hour Factor	0.9461	0.9461	0.9461	1.0000	1.0000	1.0000	0.9432	0.9432	1.0000	1.0000	0.9285	0.9285
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	154	0	82	0	0	0	96	317	0	4	258	135
Total Analysis Volume [veh/h]	616	0	328	0	0	0	383	1268	0	17	1031	541
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			1			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	23	0	0	0	0	13	47	0	0	34	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	20	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		L	C	C	R
C, Cycle Length [s]	70	70	70		70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	22	22		9	40	27	27
g / C, Green / Cycle	0.31	0.31	0.31		0.13	0.57	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.18	0.18	0.20		0.11	0.25	0.20	0.34
s, saturation flow rate [veh/h]	1781	1770	1568		3459	5094	5094	1589
c, Capacity [veh/h]	555	551	489		445	2925	1979	617
d1, Uniform Delay [s]	20.17	20.20	20.64		29.89	8.45	16.41	19.84
k, delay calibration	0.50	0.50	0.50		0.11	0.11	0.11	0.30
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.21	4.29	6.26		5.03	0.10	0.21	10.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.57	0.64		0.86	0.43	0.52	0.88
d, Delay for Lane Group [s/veh]	24.38	24.48	26.89		34.91	8.55	16.62	30.26
Lane Group LOS	C	C	C		C	A	B	C
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.68	4.69	4.91		3.34	3.07	3.93	9.19
50th-Percentile Queue Length [ft/ln]	117.00	117.24	122.85		83.46	76.87	98.21	229.74
95th-Percentile Queue Length [veh/ln]	8.23	8.24	8.55		6.01	5.53	7.07	14.16
95th-Percentile Queue Length [ft/ln]	205.69	206.03	213.74		150.22	138.37	176.77	354.03

Movement, Approach, & Intersection Results

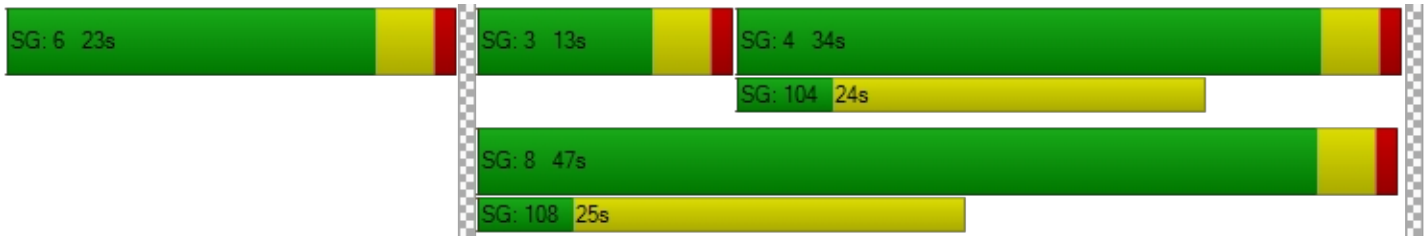
d_M, Delay for Movement [s/veh]	24.43	24.48	26.79	0.00	0.00	0.00	34.91	8.55	0.00	0.00	16.62	30.26
Movement LOS	C	C	C				C	A			B	C
d_A, Approach Delay [s/veh]	25.24			0.00			14.67			21.32		
Approach LOS	C			A			B			C		
d_I, Intersection Delay [s/veh]	19.57											
Intersection LOS	B											
Intersection V/C	0.650											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	13962.76	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.522	2.236	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	543	0	1229	857
d_b, Bicycle Delay [s]	18.60	35.00	5.21	11.43
l_b,int, Bicycle LOS Score for Intersection	3.287	4.132	2.468	2.517
Bicycle LOS	C	D	B	B

Sequence

Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Clinton Keith Rd/Arya Rd

Control Type:	Signalized	Delay (sec / veh):	84.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.320

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	285.00	100.00	100.00	315.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	296	5	100	10	3	53	33	1134	273	70	1131	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	8	0	57	46	36	0	0	34	7
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	28	0	0	71	0	0	13
Total Hourly Volume [veh/h]	308	5	78	18	3	84	80	1215	213	73	1210	39
Peak Hour Factor	0.9639	0.9639	0.9639	0.6600	0.6600	0.6600	0.9626	0.9626	0.9626	0.9599	0.9599	0.9599
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	1	20	7	1	32	21	316	55	19	315	10
Total Analysis Volume [veh/h]	320	5	81	27	5	127	83	1262	221	76	1261	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			1			0		
v_di, Inbound Pedestrian Volume crossing m	0			1			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	160
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	88	0	0	88	0	14	62	0	10	58	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	31	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	84	84	84	9	58	58	6	55	55
g / C, Green / Cycle	0.52	0.52	0.52	0.06	0.36	0.36	0.04	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	1.00	0.05	0.84	0.05	0.28	0.28	0.04	0.24	0.24
s, saturation flow rate [veh/h]	326	1569	189	1781	3560	1731	1781	3560	1840
c, Capacity [veh/h]	215	822	126	102	1295	629	67	1225	633
d1, Uniform Delay [s]	46.80	19.11	58.01	74.59	45.01	45.02	77.00	45.37	45.37
k, delay calibration	0.50	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	251.29	0.05	168.54	14.37	4.48	8.86	93.86	3.36	6.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.51	0.10	1.27	0.82	0.77	0.77	1.14	0.70	0.70
d, Delay for Lane Group [s/veh]	298.08	19.16	226.56	88.96	49.48	53.88	170.86	48.73	51.73
Lane Group LOS	F	B	F	F	D	D	F	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	24.00	1.57	9.89	3.80	18.43	18.69	4.51	15.44	16.49
50th-Percentile Queue Length [ft/ln]	599.90	39.24	247.24	95.08	460.66	467.30	112.73	386.10	412.28
95th-Percentile Queue Length [veh/ln]	40.39	2.83	17.28	6.85	25.47	25.78	8.12	21.89	23.15
95th-Percentile Queue Length [ft/ln]	1009.78	70.63	431.99	171.15	636.66	644.56	202.92	547.22	578.78

Movement, Approach, & Intersection Results

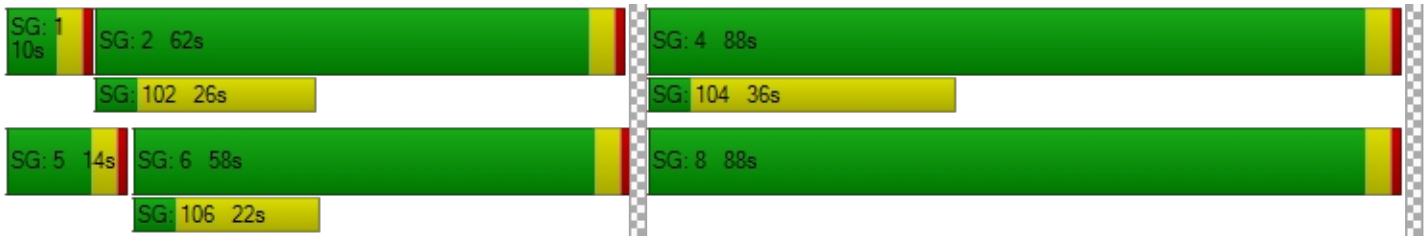
d_M, Delay for Movement [s/veh]	298.08	298.08	19.16	226.56	226.56	226.56	88.96	50.40	53.88	170.86	49.69	51.73
Movement LOS	F	F	B	F	F	F	F	D	D	F	D	D
d_A, Approach Delay [s/veh]	242.44			226.56			52.94			56.43		
Approach LOS	F			F			D			E		
d_I, Intersection Delay [s/veh]	84.10											
Intersection LOS	F											
Intersection V/C	1.320											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	1268.77	0.00
d_p, Pedestrian Delay [s]	71.25	71.25	71.25	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.267	1.943	3.648	0.000
Crosswalk LOS	B	A	D	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1050	1050	725	675
d_b, Bicycle Delay [s]	18.07	18.06	32.51	35.11
l_b,int, Bicycle LOS Score for Intersection	2.272	1.868	2.460	2.325
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Arya Rd/Catt Rd

Control Type:	All-way stop	Delay (sec / veh):	7.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.161

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	84	0	0	84	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	53	0	0	65	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	87	53	0	87	65	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	13	0	22	16	0
Total Analysis Volume [veh/h]	87	53	0	87	65	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	868	969	796
Degree of Utilization, x	0.16	0.09	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.57	0.30	0.27
95th-Percentile Queue Length [ft]	14.34	7.38	6.65
Approach Delay [s/veh]	7.95	7.08	7.93
Approach LOS	A	A	A
Intersection Delay [s/veh]	7.68		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 11: Wildomar Trl/Proj Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	279	256	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	140	84	9	0	48
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	430	350	9	0	48
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	108	88	2	0	12
Total Analysis Volume [veh/h]	0	430	350	9	0	48
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.61
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.22
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	5.60
d_A, Approach Delay [s/veh]	0.00		0.00		10.61	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Wildomar Trl/Proj Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	18.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	279	256	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	140	0	26	0	9	67
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	290	292	0	9	67
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	73	73	0	2	17
Total Analysis Volume [veh/h]	140	290	292	0	9	67
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.00	0.00	0.03	0.09
d_M, Delay for Movement [s/veh]	8.19	0.00	0.00	0.00	18.53	10.61
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.37	0.37	0.00	0.00	0.41	0.41
95th-Percentile Queue Length [ft/ln]	9.27	9.27	0.00	0.00	10.31	10.31
d_A, Approach Delay [s/veh]	2.67		0.00		11.55	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.54					
Intersection LOS	C					

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Project Completion PM.pdf

Scenario 14 Project Completion PM
5/9/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Clinton Keith Rd/Wildomar Trl	56	28	71	184	33	171	225	1090	22	125	1108	166	3279

ID	Intersection Name	Northbound		Eastbound			Westbound		Total Volume
		Left	Right	U-T	Thru	Right	Left	Thru	
2	Inland Valley Dr/Clinton Keith Rd	469	110	0	983	318	21	954	2855

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Nutmeg St/Clinton Keith Rd	79	52	291	83	51	42	74	870	86	296	817	107	2848

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
4	California Oaks Rd/Clinton Keith Rd	174	716	1124	125	415	1029	3583

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Nutmeg St/Jackson Ave	111	241	200	114	233	61	55	220	86	131	271	72	1795

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Palomar Rd/Clinton Keith Rd	54	729	69	267	657	253	212	112	38	72	278	268	3009

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
7	I-15 SB Ramps/Clinton Keith Rd	562	6	415	997	541	287	1252	4060

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
8	I-15 NB Ramps/Clinton Keith Rd	583	0	413	361	1196	957	670	4180

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
9	Clinton Keith Rd/Arya Rd	308	5	104	18	3	112	80	1215	284	73	1210	52	3464

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
10	Arya Rd/Catt Rd	87	53	0	87	65	0	292

ID	Intersection Name	Northbound	Southbound		Eastbound	Total Volume
		Thru	Thru	Right	Right	
11	Wildomar Trl/Proj Dwy 3	430	350	9	48	837

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
12	Wildomar Trl/Proj Dwy 4	140	290	292	0	9	67	798

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Cumulative AM.pdf

Scenario 15 Cumulative AM
5/9/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Clinton Keith Rd/Wildomar Trl	Signalized	HCM 6th Edition	EB Left	0.959	57.0	E
2	Inland Valley Dr/Clinton Keith Rd	Signalized	HCM 6th Edition	NB Left	1.149	96.9	F
3	Nutmeg St/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.678	32.8	C
4	California Oaks Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	EB Right	0.848	39.0	D
5	Nutmeg St/Jackson Ave	Signalized	HCM 6th Edition	SB Left	0.544	32.9	C
6	Palomar Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	EB Left	0.893	69.7	E
7	I-15 SB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	SB Left	0.726	25.2	C
8	I-15 NB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Right	0.730	20.4	C
9	Clinton Keith Rd/Arya Rd	Signalized	HCM 6th Edition	EB Left	0.771	33.7	C
10	Arya Rd/Catt Rd	All-way stop	HCM 6th Edition	NB Left	0.260	8.4	A
11	Wildomar Trl/Proj Dwy 3	Two-way stop	HCM 6th Edition	EB Right	0.067	13.9	B
12	Wildomar Trl/Proj Dwy 4	Two-way stop	HCM 6th Edition	EB Left	0.036	32.2	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Clinton Keith Rd/Wildomar Trl

Control Type:	Signalized	Delay (sec / veh):	57.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.959

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	95.00	100.00	100.00	165.00	100.00	100.00	330.00	100.00	255.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	48	20	36	105	28	204	135	794	22	53	946	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	182	0	156	125	634	0	0	524	216
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	9	0	0	92	0	0	6	0	0	66
Total Hourly Volume [veh/h]	50	21	28	291	29	276	265	1460	17	55	1508	198
Peak Hour Factor	0.7222	0.7222	0.7222	0.6740	0.6740	0.6740	0.9144	0.9144	0.9144	0.8978	0.8978	0.8978
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	7	10	108	11	102	72	399	5	15	420	55
Total Analysis Volume [veh/h]	69	29	39	432	43	409	290	1597	19	61	1680	221
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	125
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	43	0	0	43	0	23	41	0	41	59	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	33	0	0	19	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	125	125	125	125	125	125	125	125	125	125	125
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	39	39	39	39	39	19	68	68	6	55	55
g / C, Green / Cycle	0.31	0.31	0.31	0.31	0.31	0.15	0.55	0.55	0.05	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.32	0.02	0.26	0.16	0.30	0.30	0.03	0.47	0.14
s, saturation flow rate [veh/h]	939	1698	1333	1870	1589	1781	3560	1859	1781	3560	1589
c, Capacity [veh/h]	320	530	414	583	496	271	1946	1016	81	1567	699
d1, Uniform Delay [s]	34.99	30.82	48.12	30.28	39.83	53.00	18.31	18.31	58.97	35.00	22.77
k, delay calibration	0.11	0.11	0.49	0.11	0.33	0.21	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.11	55.70	0.05	10.03	56.46	1.10	2.11	13.18	44.92	1.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.22	0.13	1.04	0.07	0.82	1.07	0.55	0.55	0.75	1.07	0.32
d, Delay for Lane Group [s/veh]	35.32	30.93	103.82	30.33	49.87	109.46	19.41	20.42	72.15	79.92	23.95
Lane Group LOS	D	C	F	C	D	F	B	C	E	F	C
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.68	1.50	19.58	0.93	12.95	12.72	10.01	10.75	2.21	32.94	4.48
50th-Percentile Queue Length [ft/ln]	41.93	37.60	489.52	23.33	323.74	318.10	250.32	268.64	55.21	823.43	112.02
95th-Percentile Queue Length [veh/ln]	3.02	2.71	27.59	1.68	18.85	19.19	15.20	16.12	3.98	44.64	7.95
95th-Percentile Queue Length [ft/ln]	75.48	67.67	689.83	41.99	471.28	479.69	380.05	403.04	99.38	1115.92	198.81

Movement, Approach, & Intersection Results

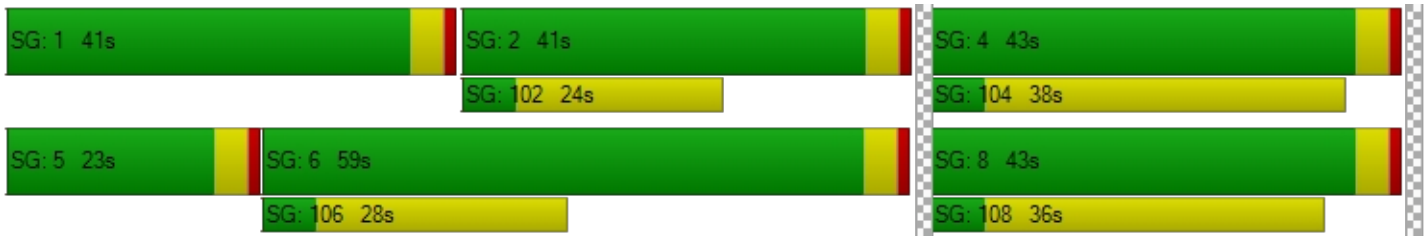
d_M, Delay for Movement [s/veh]	35.32	30.93	30.93	103.82	30.33	49.87	109.46	19.75	20.42	72.15	79.92	23.95
Movement LOS	D	C	C	F	C	D	F	B	C	E	F	C
d_A, Approach Delay [s/veh]	33.14			75.28			33.41			73.37		
Approach LOS	C			E			C			E		
d_I, Intersection Delay [s/veh]	57.01											
Intersection LOS	E											
Intersection V/C	0.959											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.82	53.82	53.82	53.82
l_p,int, Pedestrian LOS Score for Intersection	2.060	2.665	3.253	3.891
Crosswalk LOS	B	B	C	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	624	624	592	880
d_b, Bicycle Delay [s]	29.58	29.58	30.98	19.60
l_b,int, Bicycle LOS Score for Intersection	1.801	3.170	2.611	3.233
Bicycle LOS	A	C	B	C

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Inland Valley Dr/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	96.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.149

Intersection Setup

Name							
Approach	Northbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	U-turn	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1	0
Entry Pocket Length [ft]	100.00	185.00	300.00	100.00	100.00	225.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	147.11
Speed [mph]	30.00		30.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		Yes			Yes	

Volumes

Name							
Base Volume Input [veh/h]	252	29	0	537	409	103	809
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	178	113	0	620	196	130	562
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	36	0	0	155	0	0
Total Hourly Volume [veh/h]	440	107	0	1178	466	237	1403
Peak Hour Factor	0.8464	0.8464	0.9198	0.9198	0.9198	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	130	32	0	320	127	65	385
Total Analysis Volume [veh/h]	520	126	0	1281	507	260	1542
Presence of On-Street Parking	Yes	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	5	2	0	1	6
Auxiliary Signal Groups							
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	0	5	10	0	5	10
Maximum Green [s]	30	0	30	30	0	30	30
Amber [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	45	0	9	44	0	61	96
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	0	5	0	0	5
Pedestrian Clearance [s]	21	0	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No	No		No	No
Maximum Recall	No		No	No		No	No
Pedestrian Recall	No		No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	R	L	C
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	41	41	0	73	73	24	97
g / C, Green / Cycle	0.27	0.27	0.00	0.49	0.49	0.16	0.65
(v / s)_i Volume / Saturation Flow Rate	0.32	0.08	0.00	0.36	0.32	0.15	0.82
s, saturation flow rate [veh/h]	1603	1589	1781	3560	1589	1781	1870
c, Capacity [veh/h]	438	434	1	1726	770	288	1208
d1, Uniform Delay [s]	54.50	43.01	0.00	31.11	29.24	61.68	26.54
k, delay calibration	0.50	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	105.01	0.37	0.00	2.93	4.37	10.05	130.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.19	0.29	0.00	0.74	0.66	0.90	1.28
d, Delay for Lane Group [s/veh]	159.51	43.38	0.00	34.04	33.61	71.73	157.37
Lane Group LOS	F	D	A	C	C	E	F
Critical Lane Group	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	29.30	3.79	0.00	19.27	14.75	10.57	84.37
50th-Percentile Queue Length [ft/ln]	732.38	94.82	0.00	481.74	368.80	264.16	2109.23
95th-Percentile Queue Length [veh/ln]	42.20	6.83	0.00	26.47	21.05	15.90	120.38
95th-Percentile Queue Length [ft/ln]	1054.89	170.68	0.00	661.72	526.28	397.44	3009.56

Movement, Approach, & Intersection Results

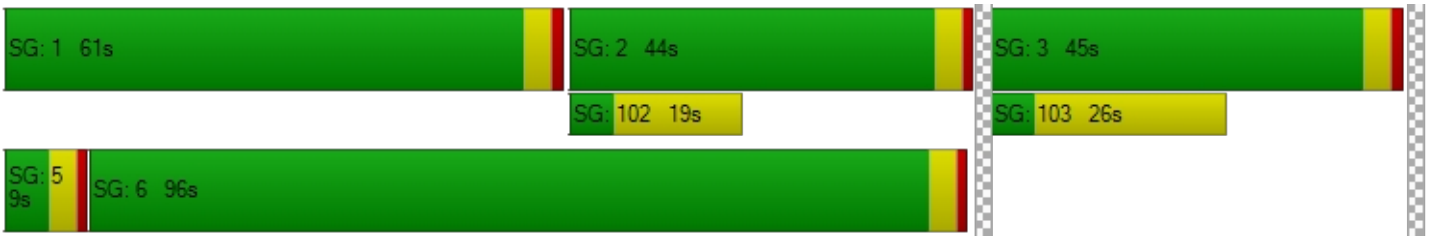
d_M, Delay for Movement [s/veh]	159.51	43.38	0.00	34.04	33.61	71.73	157.37
Movement LOS	F	D	A	C	C	E	F
d_A, Approach Delay [s/veh]	136.86		33.92			145.01	
Approach LOS	F		C			F	
d_I, Intersection Delay [s/veh]	96.87						
Intersection LOS	F						
Intersection V/C	1.149						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.27	66.27	66.27
l_p,int, Pedestrian LOS Score for Intersection	2.599	3.350	2.958
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	547	533	1227
d_b, Bicycle Delay [s]	39.60	40.33	11.21
l_b,int, Bicycle LOS Score for Intersection	1.560	3.163	4.533
Bicycle LOS	A	C	E

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Nutmeg St/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	32.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.678

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	190.00	100.00	100.00	65.00	100.00	100.00	215.00	100.00	100.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	91	37	317	101	59	30	21	532	112	385	707	68
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	64	0	0	0	0	127	68	163	34	0	250	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	83	0	0	40	0	0	38	0	0	18
Total Hourly Volume [veh/h]	159	38	247	105	61	118	90	716	112	400	985	53
Peak Hour Factor	0.9349	0.9349	0.9349	0.8962	0.8962	0.8962	0.8396	0.8396	0.8396	0.9295	0.9295	0.9295
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	10	66	29	17	33	27	213	33	108	265	14
Total Analysis Volume [veh/h]	170	41	264	117	68	132	107	853	133	430	1060	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	3			6			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			6			3		
v_co, Outbound Pedestrian Volume crossing	0			6			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			6		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	31	26	0	24	19	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	24	24	24	6	24	24	20	38	38
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.30	0.08	0.30	0.30	0.25	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.14	0.02	0.17	0.11	0.12	0.06	0.27	0.27	0.24	0.30	0.30
s, saturation flow rate [veh/h]	1178	1870	1585	1072	1653	1781	1870	1783	1781	1870	1831
c, Capacity [veh/h]	290	553	469	359	489	142	569	542	445	888	869
d1, Uniform Delay [s]	32.25	20.28	23.79	25.17	22.57	36.05	26.52	26.53	29.66	15.78	15.85
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.19	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.89	0.06	1.06	0.52	0.55	7.87	18.25	19.02	19.22	3.43	3.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.07	0.56	0.33	0.41	0.75	0.89	0.89	0.97	0.63	0.64
d, Delay for Lane Group [s/veh]	34.14	20.34	24.85	25.70	23.12	43.92	44.77	45.55	48.88	19.21	19.44
Lane Group LOS	C	C	C	C	C	D	D	D	D	B	B
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.24	0.54	4.17	1.86	2.97	2.31	11.59	11.18	10.19	7.91	7.88
50th-Percentile Queue Length [ft/ln]	81.04	13.57	104.32	46.39	74.35	57.79	289.78	279.41	254.73	197.74	196.94
95th-Percentile Queue Length [veh/ln]	5.83	0.98	7.51	3.34	5.35	4.16	17.17	16.66	15.42	12.52	12.48
95th-Percentile Queue Length [ft/ln]	145.87	24.43	187.78	83.50	133.83	104.03	429.37	416.48	385.61	313.05	312.02

Movement, Approach, & Intersection Results

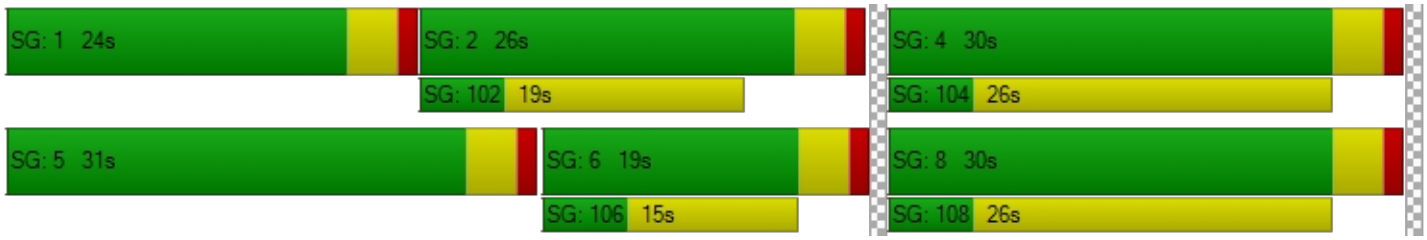
d_M, Delay for Movement [s/veh]	34.14	20.34	24.85	25.70	23.12	23.12	43.92	45.09	45.55	48.88	19.32	19.44
Movement LOS	C	C	C	C	C	C	D	D	D	D	B	B
d_A, Approach Delay [s/veh]	27.79			24.07			45.03			27.54		
Approach LOS	C			C			D			C		
d_I, Intersection Delay [s/veh]	32.82											
Intersection LOS	C											
Intersection V/C	0.678											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
l_p,int, Pedestrian LOS Score for Intersection	2.544	2.181	3.156	3.109
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	650	650	550	375
d_b, Bicycle Delay [s]	18.23	18.23	21.03	26.43
l_b,int, Bicycle LOS Score for Intersection	2.480	2.149	2.493	2.851
Bicycle LOS	B	B	B	C

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: California Oaks Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	39.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.848

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	275.00	100.00	100.00	100.00	255.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	98	387	805	157	617	1060
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	64	0	129	34	0	186
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	101	0	49	0	0
Total Hourly Volume [veh/h]	166	301	966	148	642	1288
Peak Hour Factor	0.9186	0.9186	0.9007	0.9007	0.9094	0.9094
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	82	268	41	176	354
Total Analysis Volume [veh/h]	181	328	1072	164	706	1416
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		1		0	
v_ci, Inbound Pedestrian Volume crossing mi	1		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		1		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Split [s]	27	0	29	0	44	73
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	17	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	C	L	C
C, Cycle Length [s]	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	13	13	35	35	40	79
g / C, Green / Cycle	0.13	0.13	0.13	0.35	0.35	0.40	0.79
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.10	0.33	0.35	0.40	0.40
s, saturation flow rate [veh/h]	1781	1589	1589	1870	1774	1781	3560
c, Capacity [veh/h]	236	211	211	650	617	712	2804
d1, Uniform Delay [s]	41.89	41.96	41.96	31.79	32.62	29.82	3.75
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.46	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.18	6.13	6.13	25.12	36.82	30.11	0.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.78	0.78	0.95	1.00	0.99	0.51
d, Delay for Lane Group [s/veh]	47.06	48.09	48.09	56.91	69.44	59.93	4.40
Lane Group LOS	D	D	D	E	F	E	A
Critical Lane Group	No	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.62	4.24	4.24	18.58	20.68	22.08	3.77
50th-Percentile Queue Length [ft/ln]	115.47	106.06	106.06	464.44	517.04	551.97	94.26
95th-Percentile Queue Length [veh/ln]	8.14	7.62	7.62	25.65	28.19	29.79	6.79
95th-Percentile Queue Length [ft/ln]	203.58	190.51	190.51	641.16	704.64	744.63	169.68

Movement, Approach, & Intersection Results

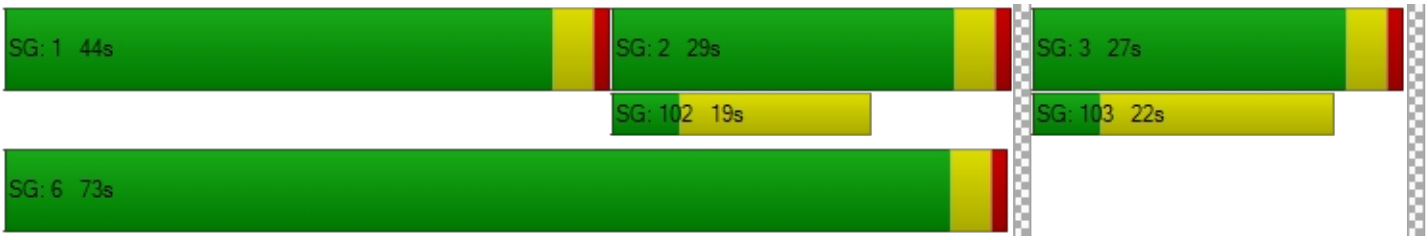
d_M, Delay for Movement [s/veh]	47.12	48.09	62.22	69.44	59.93	4.40
Movement LOS	D	D	E	E	E	A
d_A, Approach Delay [s/veh]	47.72		63.18		22.88	
Approach LOS	D		E		C	
d_I, Intersection Delay [s/veh]	39.03					
Intersection LOS	D					
Intersection V/C	0.848					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	2.654	2.910	3.013
Crosswalk LOS	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	460	500	1380
d_b, Bicycle Delay [s]	29.65	28.14	4.81
l_b,int, Bicycle LOS Score for Intersection	2.566	2.620	3.310
Bicycle LOS	B	B	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Nutmeg St/Jackson Ave

Control Type:	Signalized	Delay (sec / veh):	32.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.544

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	200.00	100.00	100.00	195.00	100.00	100.00	210.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	72	122	126	103	222	57	46	300	138	249	330	80
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	135	0	0	70	68	127	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	33	0	0	32	0	0	36	0	0	21
Total Hourly Volume [veh/h]	75	262	98	107	301	95	175	312	108	259	343	62
Peak Hour Factor	0.8600	0.8600	0.8600	0.8930	0.8930	0.8930	0.8900	0.8900	0.8900	0.8450	0.8450	0.8450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	22	76	28	30	84	27	49	88	30	77	101	18
Total Analysis Volume [veh/h]	87	305	114	120	337	106	197	351	121	307	406	73
Presence of On-Street Parking	No		No	No		No	No		Yes	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			2			2		
v_di, Inbound Pedestrian Volume crossing m	2			2			0			0		
v_co, Outbound Pedestrian Volume crossing	2			4			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			4			2		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			3			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	26	0	10	26	0	21	26	0	18	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	30	30	6	31	31	11	14	14	14	17	17
g / C, Green / Cycle	0.06	0.38	0.38	0.08	0.39	0.39	0.13	0.17	0.17	0.18	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.05	0.16	0.07	0.07	0.12	0.13	0.11	0.14	0.14	0.17	0.13	0.13
s, saturation flow rate [veh/h]	1781	1870	1566	1781	1870	1704	1781	1870	1514	1781	1870	1769
c, Capacity [veh/h]	112	702	588	134	724	660	241	327	265	312	401	380
d1, Uniform Delay [s]	36.93	18.66	16.82	36.70	17.12	17.17	33.64	31.61	31.70	32.90	28.40	28.42
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.89	1.96	0.74	18.37	1.15	1.30	6.73	4.30	5.73	20.39	1.51	1.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.43	0.19	0.90	0.32	0.32	0.82	0.79	0.81	0.99	0.61	0.61
d, Delay for Lane Group [s/veh]	47.82	20.62	17.56	55.07	18.26	18.47	40.38	35.91	37.44	53.29	29.91	30.03
Lane Group LOS	D	C	B	E	B	B	D	D	D	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.98	4.38	1.47	2.96	3.03	2.86	4.07	5.03	4.27	7.50	4.29	4.09
50th-Percentile Queue Length [ft/ln]	49.51	109.61	36.72	73.88	75.71	71.43	101.80	125.81	106.63	187.40	107.25	102.13
95th-Percentile Queue Length [veh/ln]	3.56	7.82	2.64	5.32	5.45	5.14	7.33	8.71	7.65	11.99	7.69	7.35
95th-Percentile Queue Length [ft/ln]	89.11	195.46	66.10	132.99	136.28	128.58	183.24	217.79	191.30	299.66	192.17	183.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.82	20.62	17.56	55.07	18.33	18.47	40.38	36.31	37.44	53.29	29.96	30.03
Movement LOS	D	C	B	E	B	B	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	24.61			26.19			37.71			39.08		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	32.94											
Intersection LOS	C											
Intersection V/C	0.544											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	31.51	31.51
l_p,int, Pedestrian LOS Score for Intersection	2.604	2.463	2.607	2.603
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	550	550	475
d_b, Bicycle Delay [s]	21.05	21.06	21.04	23.26
l_b,int, Bicycle LOS Score for Intersection	2.449	2.050	2.141	2.225
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Palomar Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	69.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.893

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	27.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	265.00	100.00	100.00	300.00	100.00	190.00	150.00	100.00	105.00	205.00	100.00	205.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	33	630	106	281	416	107	195	281	48	54	186	389
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	72	0	0	42	68	127	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	28	0	0	45	0	0	13	0	0	101
Total Hourly Volume [veh/h]	34	727	82	292	475	134	330	292	37	56	193	304
Peak Hour Factor	0.8469	0.8490	0.8469	0.9050	0.9050	0.9050	0.7529	0.7529	0.7529	0.8935	0.8935	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	214	24	81	131	37	110	97	12	16	54	81
Total Analysis Volume [veh/h]	40	856	97	323	525	148	438	388	49	63	216	323
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			2			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			1			2		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	7			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			2		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	30	0	23	31	0	29	41	0	21	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	19	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	29	29	19	45	45	25	45	45	5	26	26
g / C, Green / Cycle	0.03	0.26	0.26	0.17	0.39	0.39	0.22	0.39	0.39	0.05	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.02	0.26	0.26	0.18	0.15	0.09	0.25	0.21	0.03	0.04	0.06	0.21
s, saturation flow rate [veh/h]	1781	1870	1804	1781	3560	1589	1781	1870	1652	1781	3560	1563
c, Capacity [veh/h]	58	478	462	294	1384	618	387	736	650	83	792	348
d1, Uniform Delay [s]	55.08	42.79	42.79	48.00	25.20	23.69	45.00	26.70	21.81	54.20	37.01	43.63
k, delay calibration	0.11	0.50	0.50	0.23	0.50	0.50	0.41	0.11	0.11	0.11	0.11	0.30
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.94	44.68	45.43	65.07	0.79	0.92	82.54	0.59	0.05	13.31	0.18	23.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	1.01	1.01	1.10	0.38	0.24	1.13	0.53	0.08	0.76	0.27	0.93
d, Delay for Lane Group [s/veh]	69.01	87.46	88.22	113.07	25.99	24.61	127.54	27.29	21.86	67.50	37.20	66.99
Lane Group LOS	E	F	F	F	C	C	F	C	C	E	D	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.37	19.36	18.78	13.70	5.27	2.87	19.82	8.19	0.84	2.11	2.54	11.16
50th-Percentile Queue Length [ft/ln]	34.26	484.12	469.45	342.53	131.79	71.76	495.45	204.79	21.03	52.69	63.62	278.90
95th-Percentile Queue Length [veh/ln]	2.47	26.81	26.11	20.68	9.04	5.17	28.99	12.89	1.51	3.79	4.58	16.63
95th-Percentile Queue Length [ft/ln]	61.67	670.26	652.66	516.97	225.93	129.17	724.70	322.13	37.86	94.84	114.51	415.85

Movement, Approach, & Intersection Results

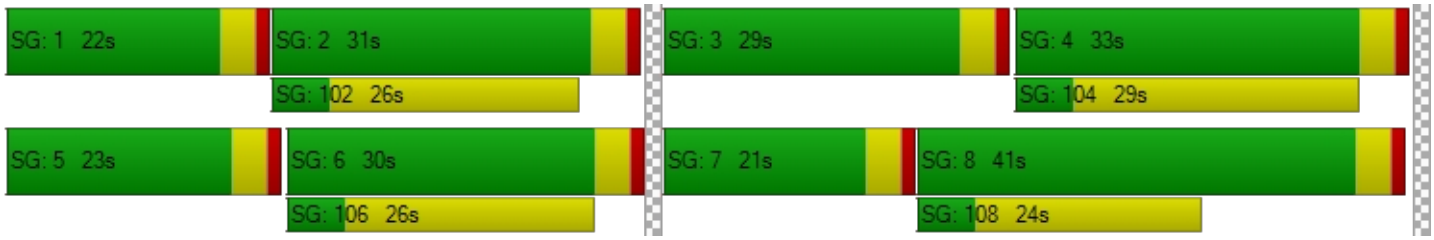
d_M, Delay for Movement [s/veh]	69.01	87.79	88.22	113.07	25.99	24.61	127.54	27.29	21.86	67.50	37.20	66.99
Movement LOS	E	F	F	F	C	C	F	C	C	E	D	E
d_A, Approach Delay [s/veh]	87.08			54.03			77.17			56.35		
Approach LOS	F			D			E			E		
d_I, Intersection Delay [s/veh]	69.74											
Intersection LOS	E											
Intersection V/C	0.893											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.85	48.85	48.85	48.85
l_p,int, Pedestrian LOS Score for Intersection	2.679	3.055	2.592	2.860
Crosswalk LOS	B	C	B	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	452	470	643	504
d_b, Bicycle Delay [s]	34.44	33.67	26.45	32.19
l_b,int, Bicycle LOS Score for Intersection	2.402	2.418	3.025	2.140
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 SB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	25.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	2	0	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	685.00	100.00	100.00	290.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	403	4	395	0	833	648	278	738	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	235	0	31	0	304	20	223	314	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	111	0	0	174	0	0	0
Total Hourly Volume [veh/h]	0	0	0	654	4	331	0	1170	520	512	1082	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8680	0.8680	0.8680	1.0000	0.9640	0.9640	0.8490	0.8490	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	188	1	95	0	303	135	151	319	0
Total Analysis Volume [veh/h]	0	0	0	753	5	381	0	1214	539	603	1274	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	34	0	0	27	0	9	36	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	18	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	R	L	C
C, Cycle Length [s]		70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		15	15	15	27	27	15	47
g / C, Green / Cycle		0.22	0.22	0.22	0.39	0.39	0.22	0.67
(v / s)_i Volume / Saturation Flow Rate		0.21	0.21	0.14	0.24	0.34	0.17	0.25
s, saturation flow rate [veh/h]		1781	1782	2813	5094	1589	3459	5094
c, Capacity [veh/h]		393	393	621	1991	621	751	3388
d1, Uniform Delay [s]		27.00	27.00	24.59	17.05	19.65	25.98	5.24
k, delay calibration		0.50	0.50	0.50	0.11	0.30	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		37.29	37.15	4.49	0.30	9.72	2.06	0.07
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.96	0.96	0.61	0.61	0.87	0.80	0.38
d, Delay for Lane Group [s/veh]		64.29	64.15	29.08	17.36	29.38	28.05	5.31
Lane Group LOS		E	E	C	B	C	C	A
Critical Lane Group		Yes	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]		9.98	9.97	3.09	4.82	8.99	4.72	2.07
50th-Percentile Queue Length [ft/ln]		249.58	249.24	77.33	120.43	224.65	117.92	51.75
95th-Percentile Queue Length [veh/ln]		15.16	15.15	5.57	8.42	13.90	8.28	3.73
95th-Percentile Queue Length [ft/ln]		379.12	378.69	139.19	210.41	347.55	206.97	93.16

Movement, Approach, & Intersection Results

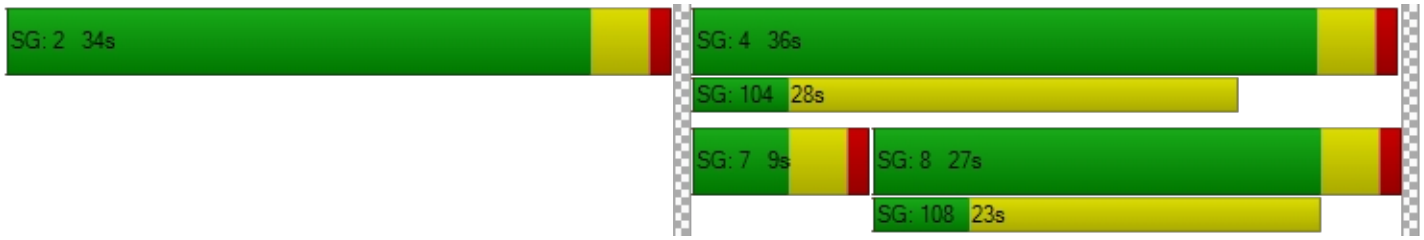
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	64.22	64.15	29.08	0.00	17.36	29.38	28.05	5.31	0.00
Movement LOS				E	E	C		B	C	C	A	
d_A, Approach Delay [s/veh]	0.00			52.46			21.05			12.61		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	25.23											
Intersection LOS	C											
Intersection V/C	0.726											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.348	2.690	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	857	657	914
d_b, Bicycle Delay [s]	35.00	11.43	15.78	10.31
l_b,int, Bicycle LOS Score for Intersection	4.132	3.622	2.619	2.592
Bicycle LOS	D	D	B	B

Sequence

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: I-15 NB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.730

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	685.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	305.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	277	1	261	0	0	0	374	859	0	0	741	581
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	31	0	271	0	0	0	20	519	0	10	506	202
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	136	0	0	0	0	0	0	0	0	202
Total Hourly Volume [veh/h]	319	1	406	0	0	0	409	1412	0	10	1277	604
Peak Hour Factor	0.9293	0.9293	0.9293	1.0000	1.0000	1.0000	0.9427	0.9427	1.0000	1.0000	0.8518	0.8518
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	0	109	0	0	0	108	374	0	3	375	177
Total Analysis Volume [veh/h]	343	1	437	0	0	0	434	1498	0	10	1499	709
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			1		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	17	0	0	0	0	12	43	0	0	31	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	20	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		L	C	C	R
C, Cycle Length [s]	60	60	60		60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	13	13		8	39	27	27
g / C, Green / Cycle	0.22	0.22	0.22		0.13	0.65	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.15	0.16	0.16		0.13	0.29	0.29	0.45
s, saturation flow rate [veh/h]	1781	1639	1589		3459	5094	5094	1588
c, Capacity [veh/h]	386	355	344		461	3311	2292	715
d1, Uniform Delay [s]	21.72	21.84	21.88		25.77	5.21	12.86	16.38
k, delay calibration	0.50	0.50	0.50		0.11	0.11	0.11	0.37
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.30	12.13	12.89		9.83	0.10	0.32	27.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.72	0.73		0.94	0.45	0.65	0.99
d, Delay for Lane Group [s/veh]	32.02	33.97	34.77		35.60	5.30	13.18	43.54
Lane Group LOS	C	C	C		D	A	B	D
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.36	4.30	4.28		3.50	2.12	4.52	13.43
50th-Percentile Queue Length [ft/ln]	109.10	107.54	107.01		87.46	52.90	112.90	335.84
95th-Percentile Queue Length [veh/ln]	7.79	7.70	7.67		6.30	3.81	8.00	19.44
95th-Percentile Queue Length [ft/ln]	194.74	192.58	191.83		157.43	95.21	200.03	486.11

Movement, Approach, & Intersection Results

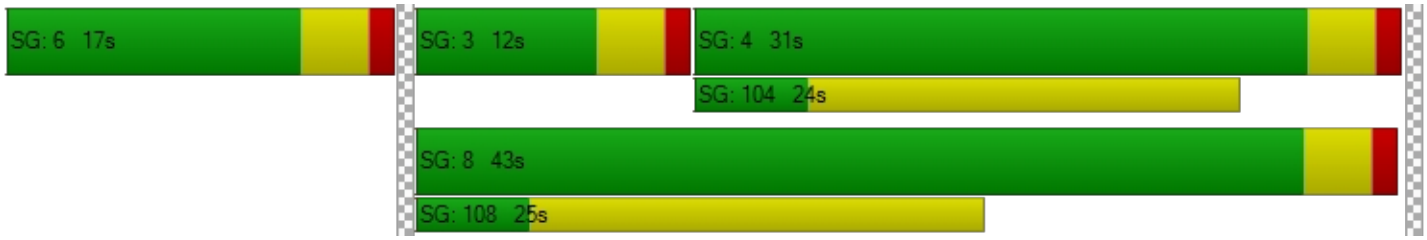
d_M, Delay for Movement [s/veh]	32.47	33.97	34.44	0.00	0.00	0.00	35.60	5.30	0.00	0.00	13.18	43.54
Movement LOS	C	C	C				D	A			B	D
d_A, Approach Delay [s/veh]	33.55			0.00			12.11			22.93		
Approach LOS	C			A			B			C		
d_I, Intersection Delay [s/veh]	20.37											
Intersection LOS	C											
Intersection V/C	0.730											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	3095.26	0.00	0.00
d_p, Pedestrian Delay [s]	21.68	21.68	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.529	2.352	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	433	0	1300	900
d_b, Bicycle Delay [s]	18.41	30.00	3.68	9.08
l_b,int, Bicycle LOS Score for Intersection	3.073	4.132	2.622	2.885
Bicycle LOS	C	D	B	C

Sequence

Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Clinton Keith Rd/Arya Rd

Control Type:	Signalized	Delay (sec / veh):	33.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.771

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	285.00	100.00	100.00	315.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	160	2	66	10	3	53	63	882	174	90	1069	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	24	0	68	55	735	0	0	650	30
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	31	0	0	45	0	0	18
Total Hourly Volume [veh/h]	166	2	52	34	3	92	121	1652	136	94	1762	53
Peak Hour Factor	0.8507	0.8507	0.8507	0.8684	0.8684	0.8684	0.9024	0.9024	0.9024	0.8366	0.8366	0.8366
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	1	15	10	1	26	34	458	38	28	527	16
Total Analysis Volume [veh/h]	195	2	61	39	3	106	134	1831	151	112	2106	63
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			1			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			1			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	6	0	0	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	0	0	40	0	19	30	0	35	46	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	31	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	38	38	38	10	47	47	8	46	46
g / C, Green / Cycle	0.36	0.36	0.36	0.09	0.45	0.45	0.08	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.29	0.04	0.28	0.08	0.37	0.37	0.06	0.40	0.40
s, saturation flow rate [veh/h]	673	1589	529	1781	3560	1798	1781	3560	1842
c, Capacity [veh/h]	309	569	233	164	1592	804	144	1550	802
d1, Uniform Delay [s]	33.79	22.50	29.84	46.77	25.44	25.55	47.34	27.93	28.02
k, delay calibration	0.50	0.50	0.50	0.11	0.11	0.32	0.11	0.11	0.39
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.66	0.38	12.53	9.37	1.14	6.58	8.77	2.70	14.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.11	0.64	0.82	0.83	0.83	0.78	0.92	0.92
d, Delay for Lane Group [s/veh]	43.45	22.88	42.36	56.15	26.57	32.13	56.12	30.63	42.91
Lane Group LOS	D	C	D	E	C	C	E	C	D
Critical Lane Group	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	5.68	1.07	4.52	3.85	14.01	15.54	3.21	16.74	20.18
50th-Percentile Queue Length [ft/ln]	141.88	26.63	113.10	96.17	350.22	388.48	80.30	418.59	504.45
95th-Percentile Queue Length [veh/ln]	9.58	1.92	8.01	6.92	20.15	22.00	5.78	23.45	27.54
95th-Percentile Queue Length [ft/ln]	239.56	47.94	200.31	173.10	503.67	550.10	144.54	586.36	688.62

Movement, Approach, & Intersection Results

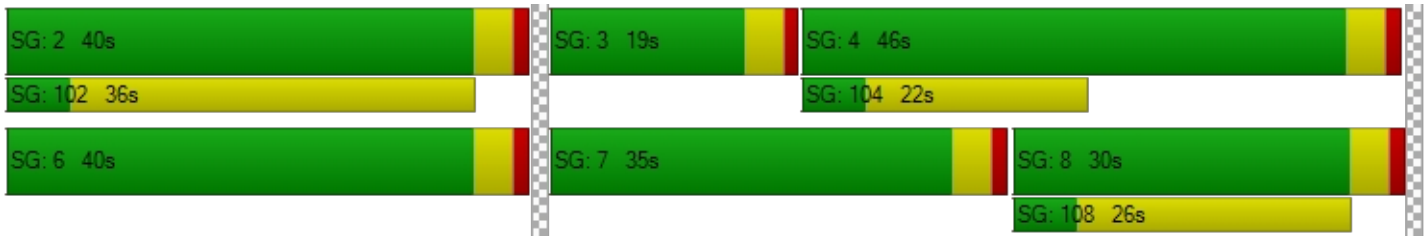
d_M, Delay for Movement [s/veh]	43.45	43.45	22.88	42.36	42.36	42.36	56.15	28.14	32.13	56.12	34.59	42.91
Movement LOS	D	D	C	D	D	D	E	C	C	E	C	D
d_A, Approach Delay [s/veh]	38.59			42.36			30.20			35.88		
Approach LOS	D			D			C			D		
d_I, Intersection Delay [s/veh]	33.72											
Intersection LOS	C											
Intersection V/C	0.771											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	6323.77	0.00
d_p, Pedestrian Delay [s]	43.89	43.89	43.89	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.164	1.961	3.585	0.000
Crosswalk LOS	B	A	D	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	686	686	495	800
d_b, Bicycle Delay [s]	22.67	22.67	29.72	18.90
l_b,int, Bicycle LOS Score for Intersection	2.013	1.855	2.748	2.824
Bicycle LOS	B	A	B	C

Sequence

Ring 1	-	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	-	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intersection Level Of Service Report
Intersection 10: Arya Rd/Catt Rd

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.260

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	109	0	0	109	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	52	33	0	32	60	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	165	33	0	145	60	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	9	0	38	16	0
Total Analysis Volume [veh/h]	174	35	0	153	63	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	805	919	750
Degree of Utilization, x	0.26	0.17	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.04	0.60	0.27
95th-Percentile Queue Length [ft]	25.93	14.89	6.86
Approach Delay [s/veh]	9.03	7.70	8.24
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.43		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 11: Wildomar Trl/Proj Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.067

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	209	350	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	341	310	6	0	28
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	558	674	6	0	28
Peak Hour Factor	1.0000	0.9500	0.9500	0.9500	1.0000	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	147	177	2	0	7
Total Analysis Volume [veh/h]	0	587	709	6	0	29
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.92
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.21
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	5.37
d_A, Approach Delay [s/veh]	0.00		0.00		13.92	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.30					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Wildomar Trl/Proj Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	32.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.036

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	209	350	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	94	247	274	0	5	42
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	94	464	638	0	5	42
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	122	168	0	1	11
Total Analysis Volume [veh/h]	99	488	672	0	5	44
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.11	0.00	0.01	0.00	0.04	0.10
d_M, Delay for Movement [s/veh]	9.39	0.00	0.00	0.00	32.23	14.38
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.36	0.36	0.00	0.00	0.45	0.45
95th-Percentile Queue Length [ft/ln]	9.03	9.03	0.00	0.00	11.31	11.31
d_A, Approach Delay [s/veh]	1.58		0.00		16.20	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	1.32					
Intersection LOS	D					

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Cumulative AM.pdf

Scenario 15 Cumulative AM
5/9/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Clinton Keith Rd/Wildomar Trl	50	21	37	291	29	368	265	1460	23	55	1508	264	4371

ID	Intersection Name	Northbound		Eastbound			Westbound		Total Volume
		Left	Right	U-T	Thru	Right	Left	Thru	
2	Inland Valley Dr/Clinton Keith Rd	440	143	0	1178	621	237	1403	4022

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Nutmeg St/Clinton Keith Rd	159	38	330	105	61	158	90	716	150	400	985	71	3263

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
4	California Oaks Rd/Clinton Keith Rd	166	402	966	197	642	1288	3661

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Nutmeg St/Jackson Ave	75	262	131	107	301	127	175	312	144	259	343	83	2319

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Palomar Rd/Clinton Keith Rd	34	727	110	292	475	179	330	292	50	56	193	405	3143

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
7	I-15 SB Ramps/Clinton Keith Rd	654	4	442	1170	694	512	1082	4558

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
8	I-15 NB Ramps/Clinton Keith Rd	319	1	542	409	1412	1277	806	4766

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
9	Clinton Keith Rd/Arya Rd	166	2	69	34	3	123	121	1652	181	94	1762	71	4278

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
10	Arya Rd/Catt Rd	165	33	0	145	60	0	403

ID	Intersection Name	Northbound	Southbound		Eastbound	Total Volume
		Thru	Thru	Right	Right	
11	Wildomar Trl/Proj Dwy 3	558	674	6	28	1266

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
12	Wildomar Trl/Proj Dwy 4	94	464	638	0	5	42	1243

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Cumulative PM.pdf

Scenario 16 Cumulative PM
5/9/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Clinton Keith Rd/Wildomar Trl	Signalized	HCM 6th Edition	SB Left	1.283	140.3	F
2	Inland Valley Dr/Clinton Keith Rd	Signalized	HCM 6th Edition	NB Left	1.526	210.1	F
3	Nutmeg St/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Left	0.735	41.0	D
4	California Oaks Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	EB Right	0.904	50.7	D
5	Nutmeg St/Jackson Ave	Signalized	HCM 6th Edition	SB Left	0.530	27.4	C
6	Palomar Rd/Clinton Keith Rd	Signalized	HCM 6th Edition	SB Left	0.767	46.5	D
7	I-15 SB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	SB Left	0.747	24.7	C
8	I-15 NB Ramps/Clinton Keith Rd	Signalized	HCM 6th Edition	WB Right	0.853	30.8	C
9	Clinton Keith Rd/Arya Rd	Signalized	HCM 6th Edition	SB Right	1.621	206.8	F
10	Arya Rd/Catt Rd	All-way stop	HCM 6th Edition	NB Left	0.305	8.8	A
11	Wildomar Trl/Proj Dwy 3	Two-way stop	HCM 6th Edition	EB Right	0.138	17.0	C
12	Wildomar Trl/Proj Dwy 4	Two-way stop	HCM 6th Edition	EB Left	0.181	86.5	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Clinton Keith Rd/Wildomar Trl

Control Type:	Signalized	Delay (sec / veh):	140.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.283

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	125.00	100.00	100.00	95.00	100.00	100.00	165.00	100.00	100.00	330.00	100.00	255.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	54	27	68	83	32	132	182	1040	21	120	1059	60
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	402	0	253	275	940	0	0	844	406
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	18	0	0	98	0	0	6	0	0	117
Total Hourly Volume [veh/h]	56	28	53	488	33	292	464	2022	16	125	1945	351
Peak Hour Factor	0.9551	0.9551	0.9551	0.9216	0.9216	0.9216	0.9007	0.9007	0.9007	0.9246	0.9246	0.9246
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	7	14	132	9	79	129	561	4	34	526	95
Total Analysis Volume [veh/h]	59	29	55	529	36	317	515	2245	18	135	2104	380
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	46	0	0	46	0	33	54	0	40	61	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	33	0	0	19	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	140	140	140	140	140	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	42	42	42	42	42	29	73	73	13	57	57
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.30	0.21	0.52	0.52	0.09	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.40	0.02	0.20	0.29	0.42	0.42	0.08	0.59	0.24
s, saturation flow rate [veh/h]	1028	1676	1314	1870	1589	1781	3560	1862	1781	3560	1589
c, Capacity [veh/h]	331	503	378	561	477	369	1863	974	162	1450	647
d1, Uniform Delay [s]	39.36	36.11	54.95	34.97	42.84	55.50	27.29	27.35	62.58	41.50	32.33
k, delay calibration	0.11	0.11	0.50	0.11	0.21	0.50	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.25	0.16	194.63	0.05	3.13	194.01	3.64	6.84	10.46	207.06	3.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.18	0.17	1.40	0.06	0.66	1.40	0.80	0.80	0.83	1.45	0.59
d, Delay for Lane Group [s/veh]	39.62	36.26	249.58	35.02	45.98	249.51	30.93	34.19	73.04	248.56	36.21
Lane Group LOS	D	D	F	D	D	F	C	C	E	F	D
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.62	2.17	34.07	0.90	10.05	32.89	20.85	22.79	5.22	66.35	10.77
50th-Percentile Queue Length [ft/ln]	40.38	54.35	851.85	22.52	251.30	822.13	521.14	569.81	130.39	1658.72	269.25
95th-Percentile Queue Length [veh/ln]	2.91	3.91	52.14	1.62	15.25	49.52	28.33	30.62	8.96	99.52	16.15
95th-Percentile Queue Length [ft/ln]	72.68	97.83	1303.62	40.53	381.29	1237.99	708.33	765.55	224.03	2488.04	403.80

Movement, Approach, & Intersection Results

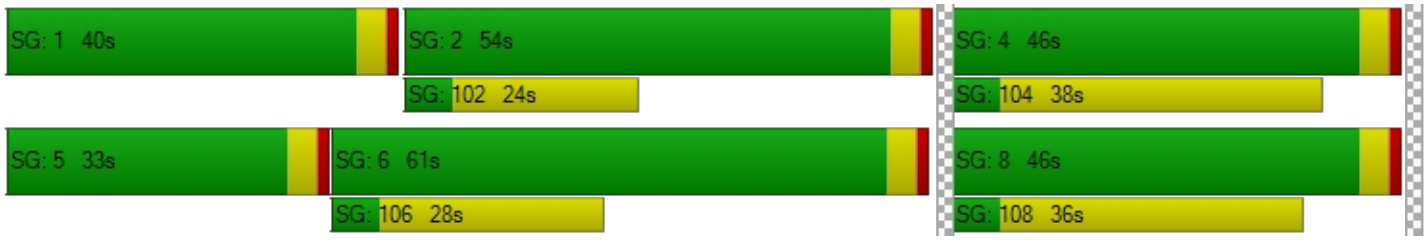
d_M, Delay for Movement [s/veh]	39.62	36.26	36.26	249.58	35.02	45.98	249.51	32.03	34.19	73.04	248.56	36.21
Movement LOS	D	D	D	F	D	D	F	C	C	E	F	D
d_A, Approach Delay [s/veh]	37.65			167.65			72.36			208.70		
Approach LOS	D			F			E			F		
d_I, Intersection Delay [s/veh]	140.28											
Intersection LOS	F											
Intersection V/C	1.283											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	61.29	61.29	61.29	61.29
l_p,int, Pedestrian LOS Score for Intersection	2.104	2.785	3.439	4.313
Crosswalk LOS	B	C	C	E
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	600	714	814
d_b, Bicycle Delay [s]	34.30	34.30	28.93	24.60
l_b,int, Bicycle LOS Score for Intersection	1.825	3.177	3.091	3.817
Bicycle LOS	A	C	C	D

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Inland Valley Dr/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	210.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.526

Intersection Setup

Name							
Approach	Northbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	U-turn	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1	0
Entry Pocket Length [ft]	100.00	185.00	300.00	100.00	100.00	225.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	2
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	147.11
Speed [mph]	30.00		30.00			30.00	
Grade [%]	0.00		0.00			0.00	
Curb Present	No		No			No	
Crosswalk	Yes		Yes			Yes	

Volumes

Name							
Base Volume Input [veh/h]	416	106	0	876	273	20	845
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	353	157	0	1017	325	130	897
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	67	0	0	152	0	0
Total Hourly Volume [veh/h]	786	200	0	1928	457	151	1776
Peak Hour Factor	0.8060	0.8060	0.9286	0.9286	0.9286	0.9710	0.9710
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	244	62	0	519	123	39	457
Total Analysis Volume [veh/h]	975	248	0	2076	492	156	1829
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0	
v_di, Inbound Pedestrian Volume crossing m	0		0			0	
v_co, Outbound Pedestrian Volume crossing	0		0			0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		1			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	150
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Protected	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	5	2	0	1	6
Auxiliary Signal Groups							
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	0	5	10	0	5	10
Maximum Green [s]	30	0	30	30	0	30	30
Amber [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	54	0	9	83	0	13	87
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	0	5	0	0	5
Pedestrian Clearance [s]	21	0	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No			No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No	No		No	No
Maximum Recall	No		No	No		No	No
Pedestrian Recall	No		No	No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	L	C	R	L	C
C, Cycle Length [s]	150	150	150	150	150	150	150
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	50	50	0	79	79	9	88
g / C, Green / Cycle	0.33	0.33	0.00	0.53	0.53	0.06	0.59
(v / s)_i Volume / Saturation Flow Rate	0.55	0.16	0.00	0.58	0.31	0.09	0.98
s, saturation flow rate [veh/h]	1781	1589	1781	3560	1570	1781	1870
c, Capacity [veh/h]	594	530	2	1875	827	107	1095
d1, Uniform Delay [s]	50.00	39.50	0.00	35.50	24.34	70.50	31.08
k, delay calibration	0.50	0.11	0.11	0.50	0.50	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	296.63	0.64	0.00	56.64	3.15	217.93	305.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.64	0.47	0.00	1.11	0.60	1.46	1.67
d, Delay for Lane Group [s/veh]	346.63	40.14	0.00	92.14	27.48	288.43	336.69
Lane Group LOS	F	D	A	F	C	F	F
Critical Lane Group	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	71.08	7.41	0.00	48.10	12.72	10.59	130.92
50th-Percentile Queue Length [ft/ln]	1777.05	185.24	0.00	1202.60	318.02	264.83	3272.90
95th-Percentile Queue Length [veh/ln]	109.08	11.87	0.00	64.55	18.57	17.63	204.43
95th-Percentile Queue Length [ft/ln]	2727.06	296.85	0.00	1613.75	464.25	440.80	5110.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	346.63	40.14	0.00	92.14	27.48	288.43	336.69
Movement LOS	F	D	A	F	C	F	F
d_A, Approach Delay [s/veh]	284.48		79.75			332.90	
Approach LOS	F		E			F	
d_I, Intersection Delay [s/veh]	210.10						
Intersection LOS	F						
Intersection V/C	1.526						

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	66.27	66.27	66.27
l_p,int, Pedestrian LOS Score for Intersection	2.761	3.592	3.179
Crosswalk LOS	C	D	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	1053	1107
d_b, Bicycle Delay [s]	33.33	16.81	14.96
l_b,int, Bicycle LOS Score for Intersection	1.560	3.804	4.835
Bicycle LOS	A	D	E

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Nutmeg St/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	41.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.735

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	190.00	100.00	100.00	65.00	100.00	100.00	215.00	100.00	100.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	67	50	280	80	49	23	55	809	74	285	757	103
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	86	0	0	0	0	171	204	346	102	0	335	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	73	0	0	49	0	0	45	0	0	27
Total Hourly Volume [veh/h]	156	52	218	83	51	146	261	1187	134	296	1122	80
Peak Hour Factor	0.8862	0.8862	0.8862	0.8444	0.8444	0.8444	0.9306	0.9306	0.9306	0.8945	0.8945	0.8945
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	15	62	25	15	43	70	319	36	83	314	22
Total Analysis Volume [veh/h]	176	59	246	98	60	173	280	1276	144	331	1254	89
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			4			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	22	46	0	24	48	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	14	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	26	26	26	26	17	42	42	20	45	45
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.26	0.17	0.42	0.42	0.20	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.15	0.03	0.16	0.09	0.14	0.16	0.38	0.39	0.19	0.36	0.37
s, saturation flow rate [veh/h]	1147	1870	1569	1074	1634	1781	1870	1796	1781	1870	1827
c, Capacity [veh/h]	213	486	408	304	425	312	785	754	356	831	812
d1, Uniform Delay [s]	45.05	28.27	32.39	33.83	31.93	40.34	27.25	27.67	39.31	24.14	24.30
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.17	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.81	0.11	1.44	0.61	1.11	9.03	16.61	20.10	15.35	8.51	9.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.12	0.60	0.32	0.55	0.90	0.91	0.93	0.93	0.81	0.82
d, Delay for Lane Group [s/veh]	52.86	28.38	33.83	34.44	33.04	49.38	43.85	47.78	54.66	32.64	33.48
Lane Group LOS	D	C	C	C	C	D	D	D	D	C	C
Critical Lane Group	No	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.84	1.09	5.31	2.09	4.93	7.44	18.96	19.54	9.38	15.21	15.25
50th-Percentile Queue Length [ft/ln]	121.11	27.29	132.65	52.23	123.32	186.02	473.90	488.52	234.53	380.13	381.35
95th-Percentile Queue Length [veh/ln]	8.45	1.96	9.08	3.76	8.58	11.91	26.10	26.79	14.40	21.60	21.66
95th-Percentile Queue Length [ft/ln]	211.35	49.12	227.09	94.01	214.39	297.86	652.41	669.76	360.11	540.01	541.48

Movement, Approach, & Intersection Results

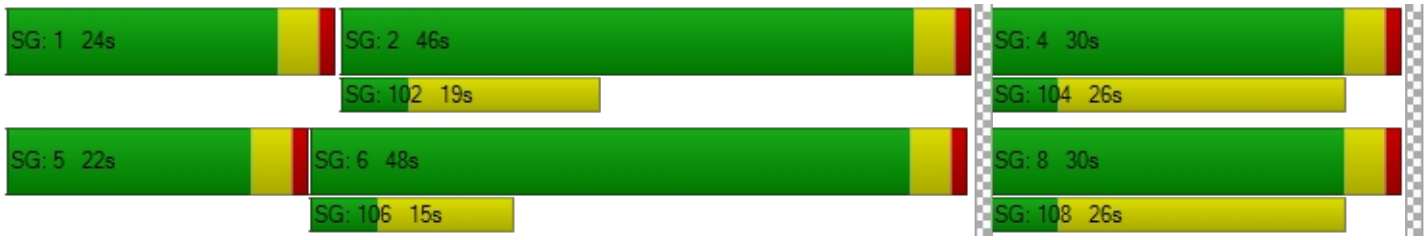
d_M, Delay for Movement [s/veh]	52.86	28.38	33.83	34.44	33.04	33.04	49.38	45.58	47.78	54.66	33.03	33.48
Movement LOS	D	C	C	C	C	C	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	40.13			33.45			46.39			37.33		
Approach LOS	D			C			D			D		
d_I, Intersection Delay [s/veh]	41.02											
Intersection LOS	D											
Intersection V/C	0.735											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	41.41	41.41	41.41	41.41
l_p,int, Pedestrian LOS Score for Intersection	2.518	2.288	3.326	3.189
Crosswalk LOS	B	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	520	520	840	880
d_b, Bicycle Delay [s]	27.39	27.43	16.83	15.68
l_b,int, Bicycle LOS Score for Intersection	2.474	2.187	2.999	2.963
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 4: California Oaks Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	50.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.904

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	1	0
Entry Pocket Length [ft]	275.00	100.00	100.00	100.00	255.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	159	688	1062	112	399	969
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	86	0	244	102	0	249
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	179	0	55	0	0
Total Hourly Volume [veh/h]	251	537	1348	163	415	1257
Peak Hour Factor	0.9287	0.9287	0.9317	0.9317	0.8724	0.8724
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	145	362	44	119	360
Total Analysis Volume [veh/h]	270	578	1447	175	476	1441
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		1		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		1	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	2		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Protected	Permissive
Signal Group	3	0	2	0	1	6
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	0	10	0	5	10
Maximum Green [s]	30	0	30	0	30	30
Amber [s]	3.0	0.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	0.0	1.0	1.0
Split [s]	26	0	41	0	28	69
Vehicle Extension [s]	3.0	0.0	3.0	0.0	3.0	3.0
Walk [s]	5	0	5	0	0	5
Pedestrian Clearance [s]	17	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk	No		No			No
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No		No	No
Maximum Recall	No		No		No	No
Pedestrian Recall	No		No		No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	C	C	L	C
C, Cycle Length [s]	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	20	20	39	39	24	67
g / C, Green / Cycle	0.21	0.21	0.21	0.41	0.41	0.25	0.71
(v / s)_i Volume / Saturation Flow Rate	0.15	0.18	0.19	0.43	0.45	0.27	0.40
s, saturation flow rate [veh/h]	1777	1589	1552	1870	1801	1781	3560
c, Capacity [veh/h]	371	332	324	770	742	450	2516
d1, Uniform Delay [s]	35.04	36.32	36.32	27.93	27.93	35.50	6.86
k, delay calibration	0.11	0.14	0.15	0.50	0.50	0.34	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.73	8.77	11.05	47.13	61.18	51.23	0.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.87	0.89	1.05	1.09	1.06	0.57
d, Delay for Lane Group [s/veh]	37.77	45.09	47.37	75.06	89.11	86.73	7.81
Lane Group LOS	D	D	D	F	F	F	A
Critical Lane Group	No	No	Yes	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	6.02	7.17	7.36	26.61	28.53	16.54	6.18
50th-Percentile Queue Length [ft/ln]	150.43	179.32	183.97	665.15	713.17	413.47	154.40
95th-Percentile Queue Length [veh/ln]	10.04	11.57	11.81	36.41	39.72	23.99	10.25
95th-Percentile Queue Length [ft/ln]	251.01	289.13	295.20	910.14	993.03	599.63	256.30

Movement, Approach, & Intersection Results

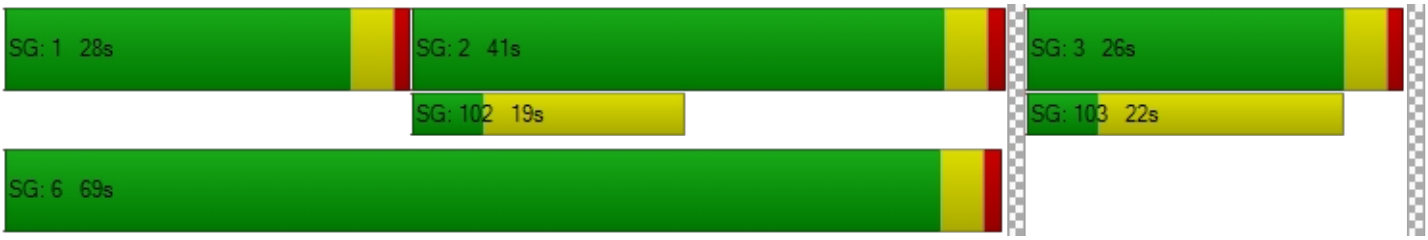
d_M, Delay for Movement [s/veh]	37.77	46.23	81.24	89.11	86.73	7.81
Movement LOS	D	D	F	F	F	A
d_A, Approach Delay [s/veh]	43.54		82.09		27.41	
Approach LOS	D		F		C	
d_I, Intersection Delay [s/veh]	50.74					
Intersection LOS	D					
Intersection V/C	0.904					

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	38.93	38.93	38.93
l_p,int, Pedestrian LOS Score for Intersection	2.812	3.039	3.108
Crosswalk LOS	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	463	779	1368
d_b, Bicycle Delay [s]	28.08	17.71	4.74
l_b,int, Bicycle LOS Score for Intersection	3.254	2.943	3.141
Bicycle LOS	C	C	C

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 5: Nutmeg St/Jackson Ave

Control Type:	Signalized	Delay (sec / veh):	27.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	150.00	100.00	100.00	200.00	100.00	100.00	195.00	100.00	100.00	210.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	107	214	192	110	208	42	36	212	83	126	261	69
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	178	0	0	207	204	171	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	50	0	0	62	0	0	22	0	0	18
Total Hourly Volume [veh/h]	111	401	150	114	423	186	208	220	64	131	271	54
Peak Hour Factor	0.9430	0.9430	0.9430	0.8330	0.8330	0.8330	0.9300	0.9300	0.9300	0.9048	0.9048	0.9048
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	106	40	34	127	56	56	59	17	36	75	15
Total Analysis Volume [veh/h]	118	425	159	137	508	223	224	237	69	145	300	60
Presence of On-Street Parking	No		No	No		No	No		Yes	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			2			1		
v_co, Outbound Pedestrian Volume crossing	3			2			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			2			3		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			1			1			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	75
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	26	0	11	26	0	15	26	0	12	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	75	75	75	75	75	75	75	75	75	75	75	75
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	31	31	7	32	32	11	14	14	8	10	10
g / C, Green / Cycle	0.08	0.41	0.41	0.09	0.42	0.42	0.15	0.18	0.18	0.10	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.23	0.10	0.08	0.21	0.21	0.13	0.09	0.09	0.08	0.10	0.10
s, saturation flow rate [veh/h]	1781	1870	1565	1781	1870	1663	1781	1870	1534	1781	1870	1761
c, Capacity [veh/h]	150	767	642	166	785	698	261	340	279	180	255	240
d1, Uniform Delay [s]	33.70	16.88	14.49	33.40	15.90	15.95	31.24	27.55	27.62	32.98	31.02	31.07
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.90	2.87	0.92	9.76	2.19	2.51	7.97	1.09	1.39	8.13	3.84	4.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.55	0.25	0.82	0.49	0.50	0.86	0.49	0.50	0.80	0.72	0.73
d, Delay for Lane Group [s/veh]	42.60	19.75	15.41	43.16	18.09	18.46	39.21	28.64	29.01	41.10	34.86	35.35
Lane Group LOS	D	B	B	D	B	B	D	C	C	D	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.42	5.77	1.82	2.83	4.93	4.50	4.39	2.69	2.29	2.91	3.36	3.24
50th-Percentile Queue Length [ft/ln]	60.42	144.31	45.54	70.66	123.24	112.51	109.87	67.20	57.25	72.68	84.01	81.05
95th-Percentile Queue Length [veh/ln]	4.35	9.71	3.28	5.09	8.57	7.98	7.83	4.84	4.12	5.23	6.05	5.84
95th-Percentile Queue Length [ft/ln]	108.76	242.82	81.98	127.18	214.27	199.49	195.82	120.96	103.05	130.83	151.21	145.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.60	19.75	15.41	43.16	18.18	18.46	39.21	28.75	29.01	41.10	35.05	35.35
Movement LOS	D	B	B	D	B	B	D	C	C	D	D	D
d_A, Approach Delay [s/veh]	22.61			22.19			33.20			36.82		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	27.38											
Intersection LOS	C											
Intersection V/C	0.530											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	29.04	29.04	29.04	29.04
l_p,int, Pedestrian LOS Score for Intersection	2.655	2.616	2.568	2.534
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	587	587	587	507
d_b, Bicycle Delay [s]	18.75	18.74	18.74	20.91
l_b,int, Bicycle LOS Score for Intersection	2.800	2.327	2.015	1.991
Bicycle LOS	C	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Palomar Rd/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	46.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.767

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	27.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	265.00	100.00	100.00	300.00	100.00	190.00	150.00	100.00	105.00	205.00	100.00	205.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	300.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name												
Base Volume Input [veh/h]	52	692	66	257	622	227	187	108	37	69	267	258
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	96	0	0	108	204	171	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	17	0	0	110	0	0	10	0	0	67
Total Hourly Volume [veh/h]	54	816	52	267	755	330	365	112	28	72	278	201
Peak Hour Factor	0.9507	0.9507	0.9507	0.9130	0.9130	0.9130	0.9330	0.9330	0.9330	0.9399	0.9399	0.9399
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	215	14	73	207	90	98	30	8	19	74	53
Total Analysis Volume [veh/h]	57	858	55	292	827	361	391	120	30	77	296	214
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			1		
v_co, Outbound Pedestrian Volume crossing	0			1			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			1			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			1			3		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	30	0	22	42	0	30	28	0	35	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	21	0	0	21	0	0	19	0	0	24	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	37	37	18	50	50	26	38	38	7	18	18
g / C, Green / Cycle	0.04	0.32	0.32	0.16	0.43	0.43	0.23	0.33	0.33	0.06	0.16	0.16
(v / s)_i Volume / Saturation Flow Rate	0.03	0.25	0.25	0.16	0.23	0.23	0.22	0.06	0.02	0.04	0.08	0.14
s, saturation flow rate [veh/h]	1781	1870	1831	1781	3560	1588	1781	1870	1632	1781	3560	1561
c, Capacity [veh/h]	73	597	584	279	1547	690	403	613	535	102	566	248
d1, Uniform Delay [s]	54.60	35.37	35.37	48.50	23.95	23.79	44.13	27.76	26.46	53.42	44.36	47.00
k, delay calibration	0.11	0.50	0.50	0.18	0.50	0.50	0.33	0.11	0.11	0.11	0.11	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.87	9.39	9.58	45.30	1.33	2.82	30.23	0.15	0.04	10.75	0.75	8.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.77	0.77	1.05	0.53	0.52	0.97	0.20	0.06	0.76	0.52	0.86
d, Delay for Lane Group [s/veh]	70.47	44.76	44.95	93.80	25.27	26.61	74.36	27.91	26.50	64.16	45.11	55.62
Lane Group LOS	E	D	D	F	C	C	E	C	C	E	D	E
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.96	13.11	12.86	11.46	8.46	7.63	14.32	2.41	0.57	2.50	3.93	6.53
50th-Percentile Queue Length [ft/ln]	48.93	327.66	321.52	286.48	211.44	190.70	358.04	60.19	14.35	62.44	98.27	163.14
95th-Percentile Queue Length [veh/ln]	3.52	19.04	18.74	17.39	13.23	12.16	20.53	4.33	1.03	4.50	7.08	10.72
95th-Percentile Queue Length [ft/ln]	88.08	476.09	468.55	434.78	330.67	303.94	513.20	108.34	25.82	112.39	176.88	267.88

Movement, Approach, & Intersection Results

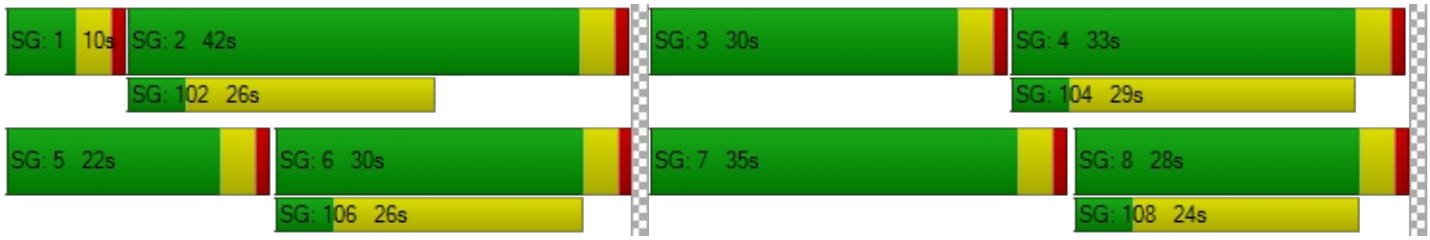
d_M, Delay for Movement [s/veh]	70.47	44.85	44.95	93.80	25.27	26.61	74.36	27.91	26.50	64.16	45.11	55.62
Movement LOS	E	D	D	F	C	C	E	C	C	E	D	E
d_A, Approach Delay [s/veh]	46.36			39.12			61.40			51.44		
Approach LOS	D			D			E			D		
d_I, Intersection Delay [s/veh]	46.47											
Intersection LOS	D											
Intersection V/C	0.767											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	48.85	48.85	48.85	48.85
l_p,int, Pedestrian LOS Score for Intersection	2.714	3.198	2.595	2.746
Crosswalk LOS	B	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	452	661	417	504
d_b, Bicycle Delay [s]	34.44	25.78	36.02	32.20
l_b,int, Bicycle LOS Score for Intersection	2.374	2.871	2.469	2.099
Bicycle LOS	B	C	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 7: I-15 SB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	24.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.747

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	2	0	0	1	2	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	685.00	100.00	100.00	290.00	235.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	514	6	399	0	933	520	261	1178	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400	1.0400	1.0400	1.0400	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	299	0	62	0	674	67	265	677	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	119	0	0	152	0	0	0
Total Hourly Volume [veh/h]	0	0	0	834	6	358	0	1644	456	536	1902	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9490	0.9490	0.9490	1.0000	0.9580	0.9580	0.9570	0.9570	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	220	2	94	0	429	119	140	497	0
Total Analysis Volume [veh/h]	0	0	0	879	6	377	0	1716	476	560	1987	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			1			0		
v_di, Inbound Pedestrian Volume crossing m	1			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	2	0	0	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	10	0	0	10	0	5	10	0
Maximum Green [s]	0	0	0	0	30	0	0	30	0	30	30	0
Amber [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	0	0	0	32	0	0	31	0	17	48	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	0	0	0	10	0	0	18	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	R	C	R	L	C
C, Cycle Length [s]		80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]		22	22	22	30	30	16	50
g / C, Green / Cycle		0.28	0.28	0.28	0.37	0.37	0.20	0.62
(v / s)_i Volume / Saturation Flow Rate		0.25	0.25	0.14	0.34	0.30	0.16	0.39
s, saturation flow rate [veh/h]		1781	1782	2777	5094	1588	3459	5094
c, Capacity [veh/h]		501	501	781	1885	588	687	3152
d1, Uniform Delay [s]		27.50	27.49	23.86	23.93	22.65	30.65	9.53
k, delay calibration		0.50	0.50	0.50	0.11	0.30	0.11	0.11
I, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		19.79	19.71	2.13	1.99	7.29	2.42	0.21
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.88	0.88	0.48	0.91	0.81	0.82	0.63
d, Delay for Lane Group [s/veh]		47.28	47.20	25.99	25.92	29.94	33.07	9.74
Lane Group LOS		D	D	C	C	C	C	A
Critical Lane Group		Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		10.47	10.46	3.08	9.93	8.74	5.22	6.11
50th-Percentile Queue Length [ft/ln]		261.68	261.42	77.07	248.17	218.40	130.39	152.87
95th-Percentile Queue Length [veh/ln]		15.77	15.76	5.55	15.09	13.58	8.96	10.17
95th-Percentile Queue Length [ft/ln]		394.33	394.00	138.73	377.35	339.58	224.02	254.25

Movement, Approach, & Intersection Results

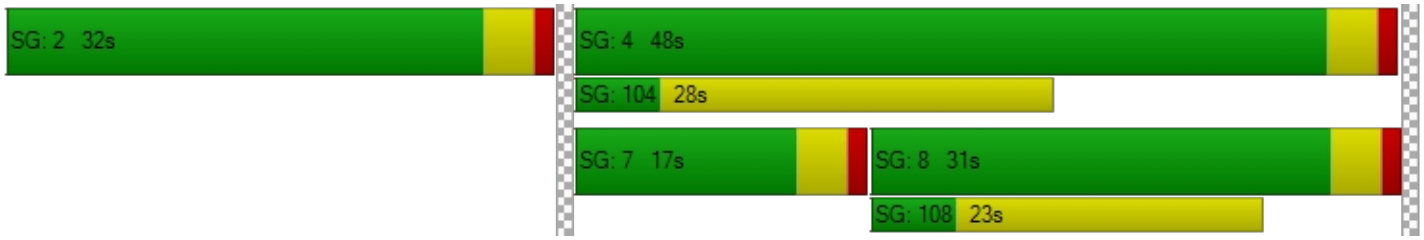
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.24	47.20	25.99	0.00	25.92	29.94	33.07	9.74	0.00
Movement LOS				D	D	C		C	C	C	A	
d_A, Approach Delay [s/veh]	0.00			40.90			26.80			14.87		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	24.70											
Intersection LOS	C											
Intersection V/C	0.747											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	2901.58	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.51	31.51	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.293	2.734	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	700	675	1100
d_b, Bicycle Delay [s]	40.00	16.91	17.56	8.10
l_b,int, Bicycle LOS Score for Intersection	4.132	3.838	2.849	2.960
Bicycle LOS	D	D	C	C

Sequence

Ring 1	2	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 8: I-15 NB Ramps/Clinton Keith Rd

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	0	0	0	2	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	685.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	305.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	561	0	370	0	0	0	347	1098	0	0	879	614
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0000	1.0000	1.0000	1.0400	1.0400	1.0000	1.0000	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	62	0	342	0	0	0	67	906	0	17	880	255
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	182	0	0	0	0	0	0	0	0	224
Total Hourly Volume [veh/h]	645	0	545	0	0	0	428	2048	0	17	1794	670
Peak Hour Factor	0.9461	0.9461	0.9461	1.0000	1.0000	1.0000	0.9432	0.9432	1.0000	1.0000	0.9285	0.9285
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	170	0	144	0	0	0	113	543	0	4	483	180
Total Analysis Volume [veh/h]	682	0	576	0	0	0	454	2171	0	17	1932	722
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	1			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			1			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Maximum Green [s]	0	30	0	0	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	23	0	0	0	0	13	47	0	0	34	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	20	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R		L	C	C	R
C, Cycle Length [s]	70	70	70		70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00		4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00		2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	19	19		9	43	30	30
g / C, Green / Cycle	0.27	0.27	0.27		0.13	0.61	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.24	0.25	0.27		0.13	0.43	0.38	0.45
s, saturation flow rate [veh/h]	1781	1704	1568		3459	5094	5094	1589
c, Capacity [veh/h]	483	463	426		445	3129	2183	681
d1, Uniform Delay [s]	24.30	24.64	25.24		30.50	9.07	18.41	20.00
k, delay calibration	0.50	0.50	0.50		0.11	0.11	0.11	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	18.58	24.02	40.15		25.31	0.28	1.34	51.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.91	0.99		1.02	0.69	0.88	1.06
d, Delay for Lane Group [s/veh]	42.88	48.66	65.38		55.81	9.36	19.75	71.28
Lane Group LOS	D	D	E		F	A	B	F
Critical Lane Group	No	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	8.68	9.36	11.17		5.15	5.90	8.81	19.51
50th-Percentile Queue Length [ft/ln]	217.09	234.03	279.31		128.77	147.57	220.14	487.77
95th-Percentile Queue Length [veh/ln]	13.52	14.38	16.65		8.95	9.89	13.67	27.88
95th-Percentile Queue Length [ft/ln]	337.90	359.48	416.35		223.63	247.18	341.81	696.99

Movement, Approach, & Intersection Results

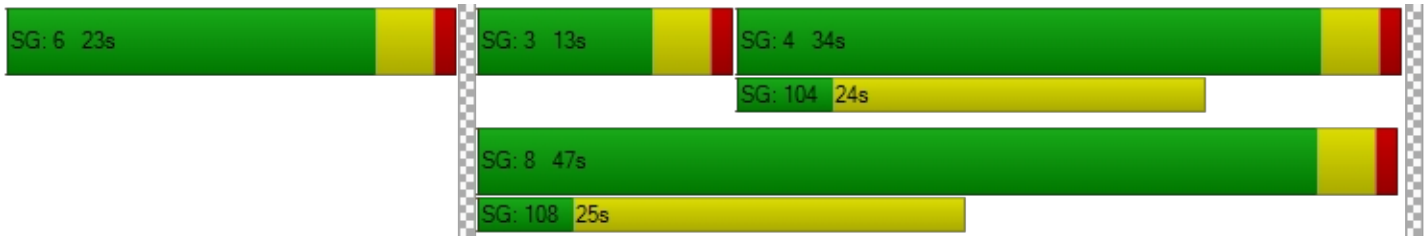
d_M, Delay for Movement [s/veh]	45.11	48.66	60.84	0.00	0.00	0.00	55.81	9.36	0.00	0.00	19.75	71.28
Movement LOS	D	D	E				F	A			B	F
d_A, Approach Delay [s/veh]	52.31			0.00			17.39			33.77		
Approach LOS	D			A			B			C		
d_I, Intersection Delay [s/veh]	30.76											
Intersection LOS	C											
Intersection V/C	0.853											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	13962.76	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.730	2.386	0.000	0.000
Crosswalk LOS	B	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	543	0	1229	857
d_b, Bicycle Delay [s]	18.60	35.00	5.21	11.43
l_b,int, Bicycle LOS Score for Intersection	3.936	4.132	3.003	3.143
Bicycle LOS	D	D	C	C

Sequence

Ring 1	-	6	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: Clinton Keith Rd/Arya Rd

Control Type:	Signalized	Delay (sec / veh):	206.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.621

Intersection Setup

Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	65.00	100.00	100.00	100.00	285.00	100.00	100.00	315.00	100.00	200.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	296	5	100	10	3	53	33	1134	273	70	1131	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	64	0	113	97	1151	0	0	1039	58
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	42	0	0	71	0	0	26
Total Hourly Volume [veh/h]	308	5	78	74	3	126	131	2330	213	73	2215	77
Peak Hour Factor	0.9639	0.9639	0.9639	0.6600	0.6600	0.6600	0.9626	0.9626	0.9626	0.9599	0.9599	0.9599
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	1	20	28	1	48	34	605	55	19	577	20
Total Analysis Volume [veh/h]	320	5	81	112	5	191	136	2421	221	76	2308	80
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			1			0		
v_di, Inbound Pedestrian Volume crossing m	0			1			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	2			1			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	160
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	88	0	0	88	0	14	62	0	10	58	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	31	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	84	84	84	10	58	58	6	54	54
g / C, Green / Cycle	0.52	0.52	0.52	0.06	0.36	0.36	0.04	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.47	0.05	1.07	0.08	0.49	0.50	0.04	0.44	0.44
s, saturation flow rate [veh/h]	687	1569	287	1781	3560	1793	1781	3560	1838
c, Capacity [veh/h]	405	822	181	111	1294	651	67	1205	622
d1, Uniform Delay [s]	34.40	19.09	59.53	75.00	50.93	50.93	77.00	52.93	52.93
k, delay calibration	0.41	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.88	0.05	337.78	116.34	159.35	184.51	93.86	142.71	152.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.10	1.70	1.22	1.34	1.39	1.14	1.30	1.31
d, Delay for Lane Group [s/veh]	47.28	19.14	397.30	191.34	210.28	235.44	170.86	195.64	205.47
Lane Group LOS	D	B	F	F	F	F	F	F	F
Critical Lane Group	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	12.71	1.57	24.52	8.20	54.48	59.42	4.51	48.05	51.31
50th-Percentile Queue Length [ft/ln]	317.64	39.23	613.01	205.04	1361.98	1485.41	112.73	1201.23	1282.85
95th-Percentile Queue Length [veh/ln]	18.55	2.82	42.73	13.69	79.65	87.60	8.12	69.74	74.37
95th-Percentile Queue Length [ft/ln]	463.79	70.61	1068.33	342.34	1991.14	2189.97	202.92	1743.58	1859.14

Movement, Approach, & Intersection Results

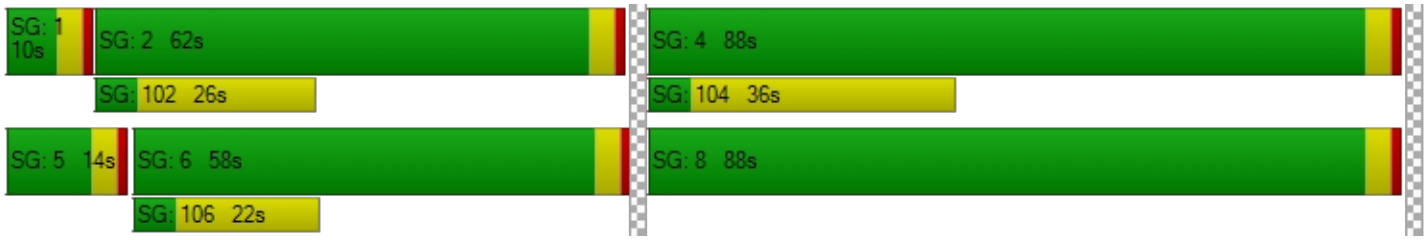
d_M, Delay for Movement [s/veh]	47.28	47.28	19.14	397.30	397.30	397.30	191.34	217.39	235.44	170.86	198.78	205.47
Movement LOS	D	D	B	F	F	F	F	F	F	F	F	F
d_A, Approach Delay [s/veh]	41.66			397.30			217.55			198.13		
Approach LOS	D			F			F			F		
d_I, Intersection Delay [s/veh]	206.82											
Intersection LOS	F											
Intersection V/C	1.621											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	529.74	0.00
d_p, Pedestrian Delay [s]	71.25	71.25	71.25	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.267	2.094	3.974	0.000
Crosswalk LOS	B	B	D	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1050	1050	725	675
d_b, Bicycle Delay [s]	18.07	18.06	32.51	35.11
l_b,int, Bicycle LOS Score for Intersection	2.272	2.137	3.127	2.929
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Arya Rd/Catt Rd

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.305

Intersection Setup

Name						
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	84	0	0	84	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	102	53	0	112	65	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	189	53	0	199	65	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	13	0	50	16	0
Total Analysis Volume [veh/h]	189	53	0	199	65	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	793	897	728
Degree of Utilization, x	0.31	0.22	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.29	0.85	0.29
95th-Percentile Queue Length [ft]	32.35	21.17	7.33
Approach Delay [s/veh]	9.52	8.15	8.43
Approach LOS	A	A	A
Intersection Delay [s/veh]	8.84		
Intersection LOS	A		

Intersection Level Of Service Report
Intersection 11: Wildomar Trl/Proj Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	17.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.138

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	279	256	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0400	1.0400	1.0400	1.0000	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	681	607	9	0	48
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	971	873	9	0	48
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	243	218	2	0	12
Total Analysis Volume [veh/h]	0	971	873	9	0	48
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.14
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	17.02
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.47
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	11.87
d_A, Approach Delay [s/veh]	0.00		0.00		17.02	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.43					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Wildomar Trl/Proj Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	86.5
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.181

Intersection Setup

Name						
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name						
Base Volume Input [veh/h]	0	279	256	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0400	1.0400	1.0400	1.0400	1.0400	1.0400
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	140	541	549	0	9	67
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	831	815	0	9	67
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	208	204	0	2	17
Total Analysis Volume [veh/h]	140	831	815	0	9	67
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.01	0.01	0.00	0.18	0.18
d_M, Delay for Movement [s/veh]	10.35	0.00	0.00	0.00	86.49	23.72
Movement LOS	B	A	A	A	F	C
95th-Percentile Queue Length [veh/ln]	0.62	0.62	0.00	0.00	1.54	1.54
95th-Percentile Queue Length [ft/ln]	15.50	15.50	0.00	0.00	38.41	38.41
d_A, Approach Delay [s/veh]	1.49		0.00		31.15	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	2.05					
Intersection LOS	F					

Wildomar Crossroads

Vistro File: C:\...\Updated for Review_5-5-22.vistro
Report File: C:\...\Cumulative PM.pdf

Scenario 16 Cumulative PM
5/9/2022

Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Clinton Keith Rd/Wildomar Trl	56	28	71	488	33	390	464	2022	22	125	1945	468	6112

ID	Intersection Name	Northbound		Eastbound			Westbound		Total Volume
		Left	Right	U-T	Thru	Right	Left	Thru	
2	Inland Valley Dr/Clinton Keith Rd	786	267	0	1928	609	151	1776	5517

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
3	Nutmeg St/Clinton Keith Rd	156	52	291	83	51	195	261	1187	179	296	1122	107	3980

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
4	California Oaks Rd/Clinton Keith Rd	251	716	1348	218	415	1257	4205

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
5	Nutmeg St/Jackson Ave	111	401	200	114	423	248	208	220	86	131	271	72	2485

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
6	Palomar Rd/Clinton Keith Rd	54	816	69	267	755	440	365	112	38	72	278	268	3534

ID	Intersection Name	Southbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Thru	Right	Left	Thru	
7	I-15 SB Ramps/Clinton Keith Rd	834	6	477	1644	608	536	1902	6007

ID	Intersection Name	Northbound			Eastbound		Westbound		Total Volume
		Left	Thru	Right	Left	Thru	Thru	Right	
8	I-15 NB Ramps/Clinton Keith Rd	645	0	727	428	2048	1794	894	6536

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
9	Clinton Keith Rd/Arya Rd	308	5	104	74	3	168	131	2330	284	73	2215	103	5798

ID	Intersection Name	Northbound		Eastbound		Westbound		Total Volume
		Left	Right	Thru	Right	Left	Thru	
10	Arya Rd/Catt Rd	189	53	0	199	65	0	506

ID	Intersection Name	Northbound	Southbound		Eastbound	Total Volume
		Thru	Thru	Right	Right	
11	Wildomar Trl/Proj Dwy 3	971	873	9	48	1901

ID	Intersection Name	Northbound		Southbound		Eastbound		Total Volume
		Left	Thru	Thru	Right	Left	Right	
12	Wildomar Trl/Proj Dwy 4	140	831	815	0	9	67	1862

Option 1: Westpark Promenade IMP

Number	9											
Intersection	Clinton Keith Rd/Arya Rd											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	296	5	100	10	3	53	33	1134	273	70	1131	43
Total Analysis Volume [veh/h]	320	5	81	27	5	127	83	1262	221	76	1261	41

Intersection Settings

Cycle Length [s]	80											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	Permi	Permi	Permi	Permi	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	40	0	0	40	0	10	30	0	10	30	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	31	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.40	0.40	0.40	0.40	0.06	0.39	0.39	0.06	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.28	0.06	0.02	0.09	0.05	0.31	0.31	0.05	0.27	0.27
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3			3		
s, saturation flow rate [veh/h]	1131	1425	1180	1420	1603	3204	1558	1603	3204	1656
c, Capacity [veh/h]	435	567	478	565	103	1260	612	94	1242	642
X, volume / capacity	0.74	0.15	0.06	0.23	0.81	0.79	0.79	0.81	0.69	0.69
d, Delay for Lane Group [s/veh]	30.99	15.54	18.50	16.18	50.64	26.55	31.51	52.02	23.65	26.49
Lane Group LOS	C	B	B	B	D	C	C	D	C	C

Critical Lane Group	Yes	No	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	6.09	0.98	0.34	1.56	1.96	8.59	9.20	1.83	6.84	7.58
50th-Percentile Queue Length [ft/ln]	152.17	24.45	8.46	38.93	48.98	214.8	230.0	45.65	171.0	189.4
95th-Percentile Queue Length [veh/ln]	10.13	1.76	0.61	2.80	3.53	13.40	14.18	3.29	11.13	12.09
95th-Percentile Queue Length [ft/ln]	253.32	44.00	15.24	70.07	88.16	335.0	354.4	82.18	278.2	302.3

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.99	15.54	15.54	18.50	16.18	16.18	50.64	27.59	31.51	52.02	24.55	26.49
Movement LOS	C	B	B	B	B	B	D	C	C	D	C	C
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	27.72			16.58			29.36			26.13		
Approach LOS	C			B			C			C		
d_I, Intersection Delay [s/veh]	27.32											
Intersection LOS	C											
Intersection V/C	0.642											

Option 1: CIP IMP

Number	1											
Intersection	Clinton Keith Rd/Wildomar Trl											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	48	20	36	105	28	204	135	794	22	53	946	46
Total Analysis Volume [veh/h]	69	29	39	455	43	427	318	1597	19	61	1680	242

Intersection Settings

Cycle Length [s]	75											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	ProtP	Permi	Permi	ProtP	Permi	Overla	Protec	Permi	Permi	Protec	Permi	Overla
Signal Group	3	8	0	7	4	1	5	2	0	1	6	0
Auxiliary Signal Groups						1,4						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	5	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	19	0	17	27	19	14	20	0	19	25	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.42	0.10	0.42	0.32	0.30	0.23	0.49	0.49	0.13	0.40
(v / s)_i Volume / Saturation Flow Rate	0.04	0.04	0.28	0.03	0.30	0.20	0.33	0.33	0.04	0.37
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3			3			3	
s, saturation flow rate [veh/h]	1603	1528	1603	1683	1431	1603	3204	1673	1603	4584
c, Capacity [veh/h]	816	155	816	535	433	363	1559	814	216	1812
X, volume / capacity	0.08	0.44	0.56	0.08	0.99	0.88	0.68	0.68	0.28	0.93
d, Delay for Lane Group [s/veh]	13.12	33.68	18.79	17.96	54.32	34.79	15.31	17.80	29.88	24.20
Lane Group LOS	B	C	B	B	D	C	B	B	C	C

Critical Lane Group	No	Yes	No	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.67	1.21	6.11	0.51	10.51	5.93	6.30	7.14	1.00	9.01
50th-Percentile Queue Length [ft/ln]	16.75	30.30	152.8	12.73	262.6	148.3	157.4	178.6	25.09	225.37
95th-Percentile Queue Length [veh/ln]	1.21	2.18	10.17	0.92	15.82	9.93	10.42	11.53	1.81	13.94
95th-Percentile Queue Length [ft/ln]	30.14	54.53	254.1	22.91	395.5	248.2	260.3	288.2	45.16	348.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	13.12	33.68	33.68	18.79	17.96	54.32	34.79	16.15	17.80	29.88	24.20	0.00
Movement LOS	B	C	C	B	B	D	C	B	B	C	C	
Critical Movement	No	No	No	No	No	Yes	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	23.32			35.15			19.23			24.40		
Approach LOS	C			D			B			C		
d_I, Intersection Delay [s/veh]	24.36											
Intersection LOS	C											
Intersection V/C	0.609											

Option 1: CIP IMP

Number	1											
Intersection	Clinton Keith Rd/Wildomar Trl											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	54	27	68	83	32	132	182	1040	21	120	1059	60
Total Analysis Volume [veh/h]	62	30	58	590	39	362	572	2245	18	146	2276	421

Intersection Settings

Cycle Length [s]	125											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	ProtP	Permi	Permi	ProtP	Permi	Overla	Protec	Permi	Permi	Protec	Permi	Overla
Signal Group	3	8	0	7	4	1	5	2	0	1	6	0
Auxiliary Signal Groups						1,4						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	5	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	40	0	27	53	15	26	43	0	15	32	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	31	0	0	33	0	0	19	0	0	23	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.29	0.08	0.29	0.22	0.34	0.18	0.52	0.52	0.09	0.44
(v / s)_i Volume / Saturation Flow Rate	0.05	0.05	0.36	0.02	0.23	0.32	0.42	0.42	0.08	0.45
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3			3			3	
s, saturation flow rate [veh/h]	1128	1675	1631	1870	1589	1781	3560	1862	1781	5094
c, Capacity [veh/h]	403	129	502	419	547	313	1862	974	157	2216
X, volume / capacity	0.15	0.68	1.18	0.09	0.66	1.82	0.80	0.80	0.93	1.03
d, Delay for Lane Group [s/veh]	32.55	62.38	145.3	38.52	39.96	435.0	28.04	31.32	76.97	61.79
Lane Group LOS	C	E	F	D	D	F	C	C	E	F

Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.41	2.93	28.13	0.97	10.11	43.18	18.33	20.16	5.46	27.28
50th-Percentile Queue Length [ft/ln]	35.30	73.29	703.3	24.24	252.8	1079.	458.2	503.9	136.58	682.12
95th-Percentile Queue Length [veh/ln]	2.54	5.28	40.59	1.75	15.33	67.24	25.35	27.52	9.30	36.60
95th-Percentile Queue Length [ft/ln]	63.54	131.93	1014.	43.64	383.1	1680.	633.8	688.0	232.41	914.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.55	62.38	62.38	145.3	38.52	39.96	435.0	29.15	31.32	76.97	61.79	0.00
Movement LOS	C	E	E	F	D	D	F	C	C	E	F	
Critical Movement	No	No	No	No	No	No	Yes	No	No	No	No	No
d_A, Approach Delay [s/veh]	50.05			102.66			111.05			62.70		
Approach LOS	D			F			F			E		
d_I, Intersection Delay [s/veh]	90.02											
Intersection LOS	F											
Intersection V/C	1.037											

Option 1: CIP IMP

Number	2						
Intersection	Inland Valley Dr/Clinton Keith Rd						
Control Type	Signalized						
Analysis Method	HCM 7th Edition						
Name							
Approach	Northbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	U-turn	Thru	Right	Left	Thru
Base Volume Input [veh/h]	252	29	0	537	409	103	809
Total Analysis Volume [veh/h]	520	126	0	1281	507	260	1541

Intersection Settings

Cycle Length [s]	65						
Coordination Type	Time of Day Pattern Isolated						
Actuation Type	Semi-actuated						
Lost time [s]	0.00						
Control Type	Split	Split	Protecte	Permissi	Permissi	Protected	Permissive
Signal Group	3	0	5	2	0	1	6
Auxiliary Signal Groups							
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	0	5	10	0	5	10
Maximum Green [s]	30	0	30	30	0	30	30
Amber [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	0	9	23	0	12	26
Walk [s]	5	0	0	5	0	0	5
Pedestrian Clearance [s]	21	0	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No	No		No	No
Maximum Recall	No		No	No		No	No
Pedestrian Recall	No		No	No		No	No
Pedestrian Signal Group	0						
Pedestrian Walk [s]	0						
Pedestrian Clearance [s]	0						

Lane Group Calculations

g / C, Green / Cycle	0.36	0.36	0.00	0.42	0.42	0.18	0.59
(v / s)_i Volume / Saturation Flow Rate	0.32	0.08	0.00	0.36	0.32	0.15	0.43
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3			3	
s, saturation flow rate [veh/h]	1603	1589	1781	3560	1589	1781	3560
c, Capacity [veh/h]	574	569	2	1485	663	316	2113
X, volume / capacity	0.91	0.22	0.00	0.86	0.76	0.82	0.73
d, Delay for Lane Group [s/veh]	30.99	14.74	0.00	18.86	20.04	31.05	9.96
Lane Group LOS	C	B	A	B	C	C	A

Critical Lane Group	Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.48	1.22	0.00	7.97	6.39	4.11	6.17
50th-Percentile Queue Length [ft/ln]	212.04	30.56	0.00	199.26	159.70	102.70	154.22
95th-Percentile Queue Length [veh/ln]	13.26	2.20	0.00	12.60	10.53	7.39	10.24
95th-Percentile Queue Length [ft/ln]	331.45	55.01	0.00	315.02	263.33	184.86	256.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.99	14.74	0.00	18.86	20.04	31.05	9.96
Movement LOS	C	B	A	B	C	C	A
Critical Movement	No	No	No	No	No	Yes	No
d_A, Approach Delay [s/veh]	27.82		19.19			13.01	
Approach LOS	C		B			B	
d_I, Intersection Delay [s/veh]	17.88						
Intersection LOS	B						
Intersection V/C	0.830						

Option 1: CIP IMP

Number	2						
Intersection	Inland Valley Dr/Clinton Keith Rd						
Control Type	Signalized						
Analysis Method	HCM 6th Edition						
Name							
Approach	Northbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	U-turn	Thru	Right	Left	Thru
Base Volume Input [veh/h]	416	106	0	876	273	20	845
Total Analysis Volume [veh/h]	975	248	0	2076	492	156	1829

Intersection Settings

Cycle Length [s]	65						
Coordination Type	Time of Day Pattern Isolated						
Actuation Type	Semi-actuated						
Lost time [s]	0.00						
Control Type	Split	Split	Protecte	Permissi	Permissi	Protected	Permissive
Signal Group	3	0	5	2	0	1	6
Auxiliary Signal Groups							
Lead / Lag	Lead	-	Lead	-	-	Lead	-
Minimum Green [s]	5	0	5	10	0	5	10
Maximum Green [s]	30	0	30	30	0	30	30
Amber [s]	3.0	0.0	3.0	3.0	0.0	3.0	3.0
All red [s]	1.0	0.0	1.0	1.0	0.0	1.0	1.0
Split [s]	30	0	9	26	0	9	26
Walk [s]	5	0	0	5	0	0	5
Pedestrian Clearance [s]	21	0	0	14	0	0	10
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	2.0	2.0
Minimum Recall	No		No	No		No	No
Maximum Recall	No		No	No		No	No
Pedestrian Recall	No		No	No		No	No
Pedestrian Signal Group	0						
Pedestrian Walk [s]	0						
Pedestrian Clearance [s]	0						

Lane Group Calculations

g / C, Green / Cycle	0.46	0.46	0.00	0.46	0.46	0.11	0.57
(v / s)_i Volume / Saturation Flow Rate	0.55	0.16	0.00	0.58	0.31	0.09	0.51
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3			3	
s, saturation flow rate [veh/h]	1781	1589	1781	3560	1570	1781	3560
c, Capacity [veh/h]	821	733	1	1640	723	202	2041
X, volume / capacity	1.19	0.34	0.00	1.27	0.68	0.77	0.90
d, Delay for Lane Group [s/veh]	114.19	11.46	0.00	139.08	15.94	34.19	14.00
Lane Group LOS	F	B	A	F	B	C	B

Critical Lane Group	Yes	No	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	32.46	2.07	0.00	38.09	5.33	2.59	9.55
50th-Percentile Queue Length [ft/ln]	811.50	51.66	0.00	952.26	133.25	64.77	238.84
95th-Percentile Queue Length [veh/ln]	47.12	3.72	0.00	56.44	9.12	4.66	14.62
95th-Percentile Queue Length [ft/ln]	1178.11	92.98	0.00	1410.89	227.91	116.58	365.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	114.19	11.46	0.00	139.08	15.94	34.19	14.00
Movement LOS	F	B	A	F	B	C	B
Critical Movement	No	No	No	Yes	No	No	No
d_A, Approach Delay [s/veh]	93.36		115.49			15.59	
Approach LOS	F		F			B	
d_I, Intersection Delay [s/veh]	76.47						
Intersection LOS	E						
Intersection V/C	1.218						

Option 1: Westpark Promenade IMP

Number	9											
Intersection	Clinton Keith Rd/Arya Rd											
Control Type	Signalized											
Analysis Method	HCM 6th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	296	5	100	10	3	53	33	1134	273	70	1131	43
Total Analysis Volume [veh/h]	320	5	81	112	5	191	136	2421	221	76	2308	80

Intersection Settings

Cycle Length [s]	155											
Coordination Type	Time of Day Pattern Isolated											
Actuation Type	Semi-actuated											
Lost time [s]	0.00											
Control Type	ProtP	Permi	Permi	ProtP	Permi	Permi	Protec	Permi	Permi	Protec	Permi	Permi
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	55	0	9	45	0	19	74	0	17	72	0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	31	0	0	21	0	0	17	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Pedestrian Signal Group	0											
Pedestrian Walk [s]	0											
Pedestrian Clearance [s]	0											

Lane Group Calculations

g / C, Green / Cycle	0.28	0.22	0.28	0.16	0.10	0.59	0.59	0.06	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.25	0.06	0.09	0.14	0.08	0.54	0.56	0.05	0.49	0.49
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3		3		3			3		
s, saturation flow rate [veh/h]	1279	1424	1249	1415	1603	3204	1613	1603	3204	1654
c, Capacity [veh/h]	282	313	359	220	155	1879	946	93	1756	907
X, volume / capacity	1.13	0.27	0.31	0.89	0.88	0.92	0.96	0.82	0.89	0.90
d, Delay for Lane Group [s/veh]	161.39	50.64	45.08	75.77	83.69	38.13	50.63	88.08	38.55	45.16
Lane Group LOS	F	D	D	E	F	D	D	F	D	D

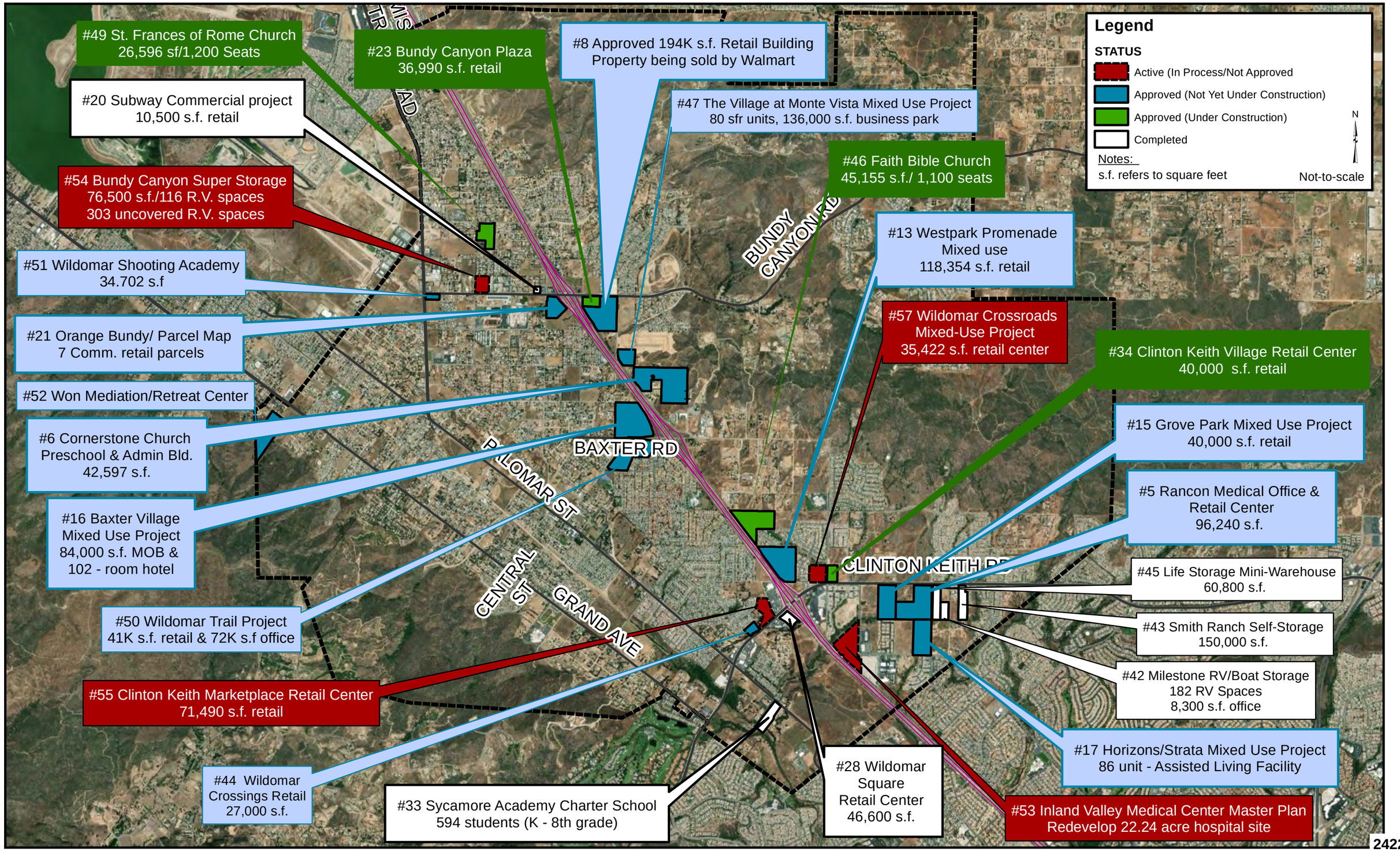
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	17.08	2.85	3.45	8.33	5.98	30.67	36.10	3.42	27.34	30.26
50th-Percentile Queue Length [ft/ln]	426.88	71.28	86.13	208.23	149.4	766.6	902.4	85.39	683.5	756.4
95th-Percentile Queue Length [veh/ln]	25.62	5.13	6.20	13.06	9.99	39.75	45.95	6.15	35.92	39.28
95th-Percentile Queue Length [ft/ln]	640.59	128.30	155.03	326.56	249.6	993.6	1148.	153.7	897.9	981.9

Movement, Approach, & Intersection Results

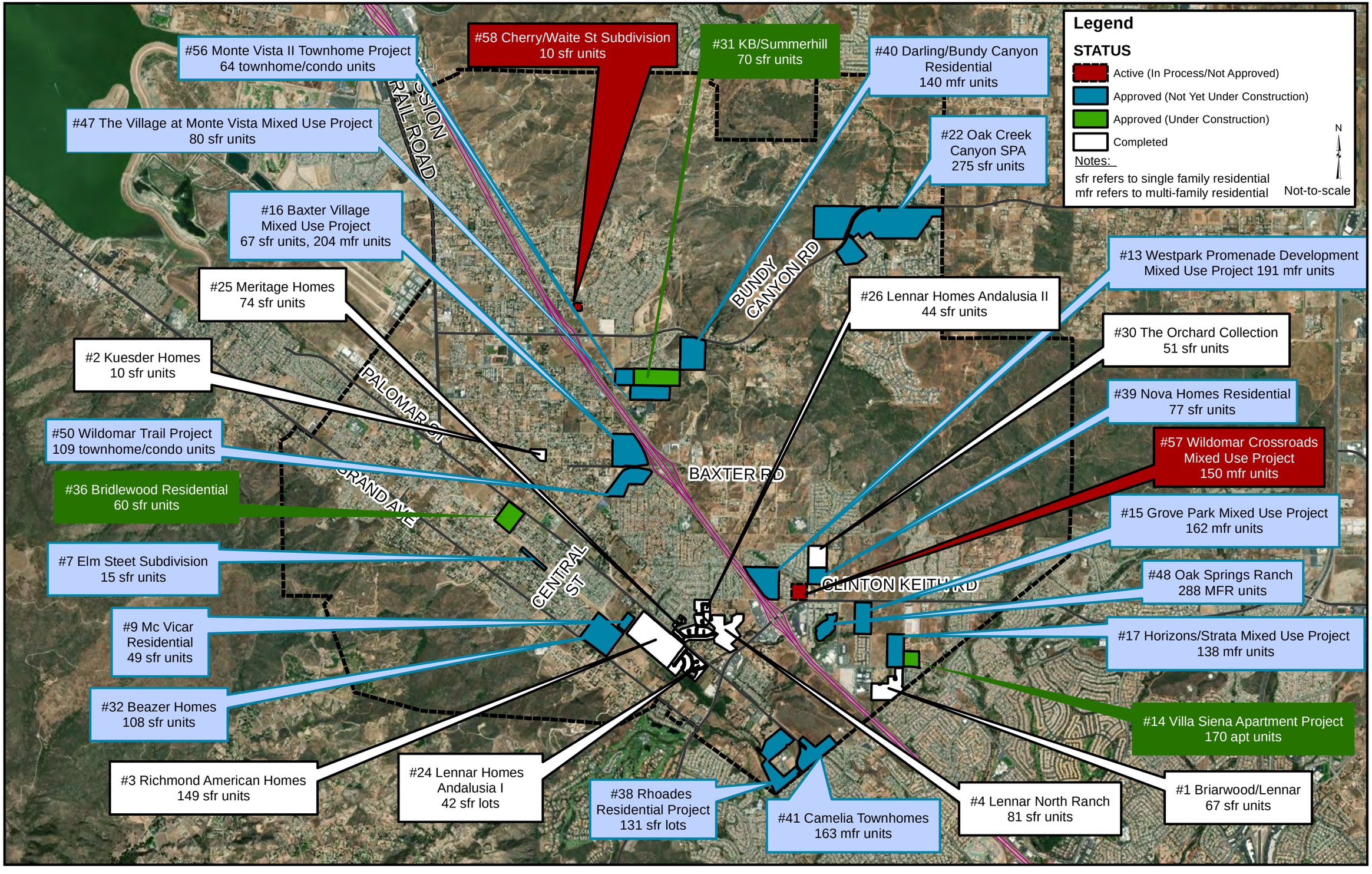
d_M, Delay for Movement [s/veh]	161.3	50.64	50.64	45.08	75.77	75.77	83.69	41.66	50.63	88.08	40.67	45.16
Movement LOS	F	D	D	D	E	E	F	D	D	F	D	D
Critical Movement	Yes	No	No	No	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	137.93			64.61			44.43			42.27		
Approach LOS	F			E			D			D		
d_I, Intersection Delay [s/veh]	50.96											
Intersection LOS	D											
Intersection V/C	0.870											

APPENDIX D – CUMULATIVE DEVELOPMENT PROJECT SPREADSHEET

City of Wildomar
Commercial Project Development List (Effective Date: January 1, 2022)



City of Wildomar
Residential Project Development List (Effective Date: January 1, 2022)



CITY OF WILDOMAR - CURRENT PLANNING CUMULATIVE DEVELOPMENT PROJECTS MATRIX

ACTIVE DEVELOPMENT PROJECTS (IN REVIEW BUT NOT YET APPROVED BY PC/CC)

MAP EXHIBIT #	PLANNING APPLICATION NUMBER	PROJECT NAME	PROJECT APPLICANT & CONTACT INFORMATION	PROJECT TYPE	SINGLE FAMILY LOTS/UNITS	MULTI-FAMILY UNITS	COMMERCIAL / INDUSTRIAL SQ. FT.	APN INFORMATION.	PROJECT DESCRIPTION
58	PA 21-0182	TTM No. 38525 Subdivision	Haitham Abdelhafeez Project Engineer (657) 230-9228	Residential	10			366-280-022	A proposal to subdivide a 2.37-acre site into 10 lots (4.2 units/acre density) for development of 10 single family homes in the R-1 zone located at the SWC of corner of Cherry Street and Waite Street (APN: 366-280-022)
57	PA 21-0145	Wildomar Crossroads Mixed-Use Project:	Kassen Klein, Project Manager (951) 733-7665	Mixed-Use		150 (Apartments)	35,422 sq. ft.	376-410-015, 016, 017 & 021	A proposed mixed use project including a 150-unit "gated" multi-family apartment community on 4.48 acres and 2) a 35,422 square-foot commercial retail center (4.53-acres) anchored by a Sprouts Grocery store one (1) multi-tenant retail building, two (2) drive-through restaurants and one (1) drive-through coffee shop located at the NWC of Wildomar Trail & Clinton Keith Road (APN: 376-410-015, 016, 017 & 021)
55	PA 21-0033	Clinton Keith Marketplace Retail Center	Stephen Macie, Applicant (702) 497-3101	Comm.			71,490 sq. ft.	380-110-009, -010, -014 & -016	A proposal to build a 71,490 square-foot multi-tenant retail center consisting of: 1) a 22,000 sf grocery store, 2) an 18,000 sf building that includes a 13,000 sf pharmacy store (1st floor) and a 5,000 sf office/medical use (2nd floor), 3) a 7,700 sf multi-tenant retail building 4) a 7,600 sf automotive retail store, 5) a 4,800 sf retail building for a future cannabis business; 6) a 4,800 sf fast food/drive through restaurant, 7) a 3,590 sf car wash (CUP), and 8) Variance to allow a 65-foot tall freeway sign. The proposal includes a vesting parcel map (VTPM 37736) to subdivide the 8.8 acre site into 5 parcels within the C-P-S zone, and 6) located at the NWC of Hidden Springs Road and Clinton Keith Road
54	PA 20-0031	Bundy Canyon Super Storage RV & Boat Storage	Pete Prestininzi, Owner/Applicant (951) 245-9100	Comm.			76,500 s.f. indoor (116 RV spaces) & 303 uncovered RV spaces	366-210-035; 036 & 037	A proposed GPA from BP to CR, a Change of Zone from RR to C-1/C-P, a Parcel Merger to consolidate 3 lots into 1, and a Plot Plan to develop a 116 space (76,500 s.f. enclosed building) and 303 spaces (uncovered) RV & Boat storage facility (no rental office shown) on 6.85 acres located at 21562 Bundy Canyon Road.
53	PA 20-0116	Inland Valley Medical Center Master Plan Project	Terry Strom, Strom Permit Service (951) 970-7995	Hospital			290,000 sq. ft. & 202 total patient beds	380-250-026	A proposal from IVMC/UHS to redevelop the 22.24 acre hospital site that includes the following: 1) Zone Change to create the "IVMC Hospital Overlay zone designation; 2) ZOA to adopt the IVMC-Hospital Overlay development standards; 3) CUP to relocate and establish a new Heliport onsite; & 4) Plot Plan to redevelop the hospital site with a new 7-story, 290,000 square-foot hospital tower building with 202 total patient beds located at 36485 Inland Valley Drive.

CITY OF WILDOMAR - CURRENT PLANNING CUMULATIVE DEVELOPMENT PROJECTS MATRIX

APPROVED DEVELOPMENT PROJECTS (BUT NOT YET UNDER CONSTRUCTION)

MAP EXHIBIT #	PLANNING APPLICATION NUMBER	PROJECT NAME	APPLICANT & CONTACT INFORMATION	PROJECT TYPE	SINGLE FAMILY LOTS/UNITS	MULTI-FAMILY UNITS	COMMERCIAL / INDUSTRIAL SQ. FT.	APN(S) INFO.	PROJECT APPROVAL DATE	PROJECT DESCRIPTION
56	PA 21-0045	Monte Vista II Townhome Project	Erik Lunde, Applicant (714) 318-3500	MFR		62 units (Townhouse Condos)		367-140-011	**12/15/21**	A proposal to: 1) amend the General Plan land use map from Business Park (BP) to High Density Residential (HDR, 8 - 14 units/acre); 2) a Change of Zone from C-O to R-3; 3) a Tentative Tract Map to subdivide the 6.47 acre site for condominium purposes, and a Final Site Plan of Development to construct 62 townhome/condos on a 6.47-acre site located on the NEC of Monte Vista Road & Summersage Way.
50	PA 20-0039	Wildomar Trail Mixed-Use Project	Jack Kofdarali, JNT Management (951-280-3833)	Residential, Comm., Retail & Office		121 units (Townhouse Condos)	41,609 s.f. retail & 72,000 s.f. office	376-180-006 & 376-190-002	**9/8/21**	The applicant is proposing to develop a 4-phased mixed-use project on 25.8 acres consisting of: 1) a zone change on a 6.07 acre portion of the site from C-P-S (Scenic Highway Commercial) to R-3 (General Residential) and remove the MU overlay zoning district; 2) plot plan approval to develop a 41,609 square-foot retail center (includes a gas station & mini-market (w/alcohol sales), restaurants, retail shops, grocery store and car wash); 3) plot plan approval to develop a 72,000 square-foot professional office building complex; and 4) final site plan of development approval to develop a 109-unit townhouse (for sale) project with full on-site/off-site improvements. The four (4) planned phases are as follows: Phase 1 will be 5.11 acres and includes development of a gas station/mini market (w/alcohol sales), car wash and water detention basin; Phase 2 will be 4.89 acres and includes development of multi-tenant retail shops, restaurant pads and a market; Phase 3 will be 6.26 acres and includes development of two office buildings; and Phase 4 will be 6.07 acres and includes development of 121 townhouse residential units.
48	PA 20-0044	Oak Springs Ranch Phase 2 Apartments	Chris Schoeneck Wermers Prop. (858-623-4962)	MFR		288 units (Apartments)		380-250-038	**8/11/2021**	A proposed GPA from MHDR to HHDR, a SPA to modify the Oak Springs Ranch Specific Plan & a Plot Plan to develop a 288-unit apartment project on the southerly vacant portion of the Oak Springs Ranch SP located at the SWC of Inland Valley Drive and Clinton Keith Road.

CITY OF WILDOMAR - CURRENT PLANNING CUMULATIVE DEVELOPMENT PROJECTS MATRIX

APPROVED DEVELOPMENT PROJECTS (BUT NOT YET UNDER CONSTRUCTION)

MAP EXHIBIT #	PLANNING APPLICATION NUMBER	PROJECT NAME	APPLICANT & CONTACT INFORMATION	PROJECT TYPE	SINGLE FAMILY LOTS/UNITS	MULTI-FAMILY UNITS	COMMERCIAL / INDUSTRIAL SQ. FT.	APN(S) INFO.	PROJECT APPROVAL DATE	PROJECT DESCRIPTION
16	PA 20-0028	Baxter Village MOB/Hotel Project	Eric Flodine, Strata Equity Group (858-546-0900)	Mixed Use			84,000 s.f. Medical Office Bld. & 102-Room Hotel	367-180-057	**11/11/2020**	A revised plot plan to remove an approved 75,000 square-foot retail and replace it the development of an 84,000 square-foot medical office building and 102-room hotel. Located at the NWC of I-15 freeway and Wildomar Trial
52	PA 19-0164	Won Meditation & Retreat Center	Sean Mo, Architect, (213-925-9709)	Religious Retreat Center			11,999 s.f.	381-140-002 & 382-150-001	**8/19/2020**	Applicant is proposing a retreat/meditation center open to all faiths that includes: 1) a 7,185 s.f. meditation hall (w/kitchen and cooking facilities); 2) a 3,157 s.f. guesthouse (w/12 rooms); 3) a 1,657 s.f. meditation pavilion (i.e., building); and 4) 2-manufactured homes for housing/admin services on 21.76 in the R-R zone located at 19993 Grand Avenue.
51	PA 19-0093	Wildomar Shooting Academy	Don McLean, Applicant (760-846-9760)	Service Commercial			34,702 s.f.	367-020-038	**2/12/2020**	Approval to establish an indoor shooting range consisting of 1) a GPA to reduce the size of Bundy Canyon Road to 4 lanes; 2) a zone change from R-R to M-SC; and 3) a CUP to develop a 2-story 34,702 square-foot indoor shooting range/academy with live fire pistol ranges of 8 bays (range 1), 9 bays (range 2), 8 bays Rifle/Pistol (range 3), 8 bays law enforcement use (range 4), and a tactical training facility which will utilize simulated non-live fire weaponry for law enforcement training. The site is on 2.33 acres located at the SEC of Mission Trail & Bundy Canyon Road.
47	PA 18-0034 (TTM 37476)	"Summerhill Phase II / Village at Monte Vista"	Tom Mungari, Nova Homes, Inc. (714-423-5156)	SFR / Bus. Park	80 (KB Homes)		136,000 S.F. (Nova Dev.)	367-140-008, 367-140-010 & 367-140-012	**2/13/2019**	An approved mixed-use project consisting of the following: 1) change of zone from R-R to R-1 on 28.86 and R-R to I-P on 9.36 acres; 2) a tentative tract map (TM 37476) to subdivide 38.22 acres into 80 lots for single family development and 4 lots for commercial/industrial park development; 3) a final site plan of development (FSPOD) to build 80 single family dwellings; and 4) a plot plan to develop a 136,000 square-foot commercial/business park on 38.22 acres. Project includes an IS/MND.
44	PA 16-0134	Wildomar Crossings Retail Center	Jim Rochelle, Mann Property (925-250-7118)	CR			27,000 s.f. Commercia & Retail	380-120-003; 380-120-004	**05/9/2018**	An approved Change of Zone, Parcel Map and Plot Plan to develop a 27,000 square-foot commercial retail center with users such as Auto Zone, Dollar Tree, Wendy's restaurant with other retail uses on 3.4 acres.

CITY OF WILDOMAR - CURRENT PLANNING CUMULATIVE DEVELOPMENT PROJECTS MATRIX

APPROVED DEVELOPMENT PROJECTS (BUT NOT YET UNDER CONSTRUCTION)

MAP EXHIBIT #	PLANNING APPLICATION NUMBER	PROJECT NAME	APPLICANT & CONTACT INFORMATION	PROJECT TYPE	SINGLE FAMILY LOTS/UNITS	MULTI-FAMILY UNITS	COMMERCIAL / INDUSTRIAL SQ. FT.	APN(S) INFO.	PROJECT APPROVAL DATE	PROJECT DESCRIPTION
41	PA 16-0070	Camelia Townhouse Project	Bill Lo, Sunbelt Communities (949-218-6023)	MFR		163 (Condos)		380-220-003	**8/9/2017**	An approved Change of Zone from R-R to R-3, a Tentative Tract Map (TM No. 37156) to subdivide 29.4 acres into 1 lot for condominium purposes, and a Plot Plan to develop a 163-unit multi-family for-sale townhome complex on 29.4 acres.
40	PA 16-0006	Bundy Canyon Resort Apts.	Dick Darling, Darling Dev. (805-379-2111)	MFR		140 (Apts.)		367-250-008	**4/12/2017**	An approved Change of Zone from R-R to R-3 and a Plot Plan for the development of a 140-unit multi-family apartment complex on 28.8 acres.
39	PA 15-0129 (TM 36952)	Wildomar Ridge Residential	Tom Mungari, Nova Homes, Inc. (562-355-0835)	SFR	77			362-250-001 362-250-026	**2/8/2017**	An approved single family detached residential condominium project including: 1) a GPA from MUPA to MHDR (6.84 units/acre); 2) a Change of Zone from R-R to R-4; 3) a Tract Map (TM 36952) to subdivide 11.25 gross acres into one (1) lot for condominium purposes; 4) a Plot Plan to develop 77 single family detached & attached residences.
9	PA 09-0380 (TM 32035)	McVicar Residential Project	Martin Boone, Omni Financial (831-464-5021)	SFR	48			380-040-005, 007, 008, & 012	**1/11/2017**	An approved Change of Zone from R-R (Rural Residential) to R-1 (One Family Dwelling) & W-1 (Watercourse/Conservation) and a tentative tract map (TM 32035) to subdivide 19.2 acres into 48 lots for future single residential development.
13	PA 13-0082 (PM 36122)	Westpark Promenade Project	Danny Brose, Golden Eagle Multifamily Prop. (714-874-7474)	Mixed Use		191 (Condos)	118,354 s.f.	376-410-013, 023 and 025	**12/14/2016**	An approved mixed use project comprising the following: 1) a GPA from Commercial Office (C-O) to Commercial Retail (CR) on 13.43 acres and to Very High Density Residential (VHDR) on 14.17 acres; a change of zone from C-P-S (Scenic Highway Commercial) to R- 3 (General Residential) on a 14.17 acre portion of the project site; a Tentative Parcel Map (TPM 36612) to subdivide the 27.6 acre project site into 3 parcels; 4) two (2) Tentative Tract Maps (TTM's 36781 & 36782) for condominium purposes on a 14.17 acre portion of the site; and 5) a plot plan for the development of 118,354 square feet of commercial retail on 13.43 acres, and 191 for-sale townhomes/condos on 14.17 acres.

CITY OF WILDOMAR - CURRENT PLANNING CUMULATIVE DEVELOPMENT PROJECTS MATRIX

APPROVED DEVELOPMENT PROJECTS (BUT NOT YET UNDER CONSTRUCTION)

MAP EXHIBIT #	PLANNING APPLICATION NUMBER	PROJECT NAME	APPLICANT & CONTACT INFORMATION	PROJECT TYPE	SINGLE FAMILY LOTS/UNITS	MULTI-FAMILY UNITS	COMMERCIAL / INDUSTRIAL SQ. FT.	APN(S) INFO.	PROJECT APPROVAL DATE	PROJECT DESCRIPTION
16	PA 14-0002	Baxter Village Mixed Use Project	Eric Flodine, Strata Equity Group (858-546-0900)	Mixed Use	67	204 (Apts.)	84,000 s.f. M.O.B. and 102-room Hotel	367-180-015 367-180-043	**7/13/2016**	An approved 35 acre mixed-use project consisting of the following: 1) a GPA from MUPA to CR, MHDR & VHDR; 2) a Change of Zone to C-P-S, R-3 and R-4; 3) a Tentative Tract Map (TTM 36674) to subdivide 35 acres into 85 parcels to accommodate the mixed use project; and 4) a plot plan to develop a 75,000 square-foot retail center, a 204 unit multi-family apartment project, and a 67-lot single family development.
15	PA 14-0069	Grove Park Mixed Use Project	Eric Flodine, Strata Equity Group, (858-546-0900)	Mixed Use		162 (Apts.)	50,000 s.f.	380-250-003	**2/10/2016**	An approved GPA from Business Park to Commercial Retail for a 10.3 acre portion of the project site, a Change of Zone from R-R (Rural Residential) to CPS (Scenic Highway Commercial) on a 10.3 acre portion of the project site, a tentative parcel map (PM 36674) to subdivide the site into 2 parcels, and a Plot Plan to develop a 50,000 square-foot retail center (northerly portion) and a 162-unit multi-family apartment project.
17	PA 14-0040	Horizons Mixed Use Project	Eric Flodine, Strata Equity Group, (858-546-0900)	Mixed Use		138 (Condos by Lennar Homes)	86-unit - Assisted Living Facility	380-250-023	**2/10/2016**	An approved GPA from Business Park to Commercial Retail (on 5.2 acres) and High Density Residential (on 10.6 acres), a Change of Zone from R-R (Rural Residential) to R-3 (General Residential) on 10.6 acres and from R-R (Rural Residential) to C-1/C-P (General Commercial (on 5.2 acres), Tract Map (36672) to subdivide the site into 3 parcels, and a Plot Plan to develop an 86-unit assisted living facility and a 138-unit multi-family townhome/condominium project.
7	PA 08-0154 (TM 33840)	Elm Street Subdivision	Zareh Hookasian, (615-838-4820)	SFR	14			376-043-027	**9/23/2015**	An approved subdivision of 4.07 acres into 15 lots for future single-family homes (ranging in size from 7,200 s.f. to 15,061 s.f. - average lot size of 9,000 s.f.) and a Zone Change from R-R (Rural Residential) to R-1.
8	PA 13-0086 (PM 36652)	Wal-Mart Retail Project	Philip Serghini, Director of Public Affairs, Walmart, Inc. (479-204-8557)	CR			193,792 s.f.	367-100-033, 367-100-034 367-100-035 367-100-039	**3/11/2015**	An approved Change of Zone from R-R (Rural Residential) to C-1/C- P (General Commercial), and a Plot Plan for the development of a Walmart retail building totaling 185,992 s.f. and a 7,800 s.f. retail pad on 22 acres. • *Walmart to sell property…plans to construct the project have been scrapped.*

CITY OF WILDOMAR - CURRENT PLANNING CUMULATIVE DEVELOPMENT PROJECTS MATRIX

APPROVED DEVELOPMENT PROJECTS (BUT NOT YET UNDER CONSTRUCTION)

MAP EXHIBIT #	PLANNING APPLICATION NUMBER	PROJECT NAME	APPLICANT & CONTACT INFORMATION	PROJECT TYPE	SINGLE FAMILY LOTS/UNITS	MULTI-FAMILY UNITS	COMMERCIAL / INDUSTRIAL SQ. FT.	APN(S) INFO.	PROJECT APPROVAL DATE	PROJECT DESCRIPTION
6	PA 12-0194	Cornerstone Church Preschool & Admin Bld.	Jeff Rosen, Pastor (951-262-5970)	Church			42,597 s.f.	367-210-007, 008, 018, 034, 035 & 043	**12/10/2014**	An approved PUP to build a 2-story, 17,135 sq. ft. preschool building for 170 children; a 2,438 sq. ft. maintenance building and a future 3-story, 23,024 sq. ft. administration building and related 2 new parking lots.
5	PA 12-0053 (PM 36492)	Rancon Medical & Retail Center	Dan Long, Rancon Group (951-200-2367)	Off. & CR			294,900 s.f.	380-250-022	**10/1/2014**	An approved Parcel Map No. 36492 to subdivide 1 parcel of 29.40 acres into 13 parcels for commercial/retail, industrial and open space purposes, and Plot Plan No. 12-0053 for the development of 96,240 square feet of medical, office and retail uses. Future development of the industrial lots will result in 294,900 square feet of business park uses.
21	PA 10-0301 (PM 30522)	Orange Bundy/ Parcel Map	Mike Sater, Sater Oil, Inc. (909-293-7588)	CR			7 parcels	367-100-024; 367-100-026	**7/3/2013**	An approved commercial Parcel Map (PM 30522) for a 7-lot commercial subdivision.
22	PA 11-0261 (TM 36388)	Oak Creek Canyon Residential Proj.	Bill Lo, Sunbelt Communities (949-218-6023)	SFR	275		5-acre parcel/site	362-070-001, 003, 006, 010, 013, 018, 021, 023, & 024; 362-080-004, 005, 007, 008, 009 & 012; 362-090-009 & 015	**5/22/2013**	An approved Specific Plan Amendment , General Plan Amendment, Change of Zone and Tract Map (TTM 36388) to accommodate a 275-lot single family residential subdivision, and a 5-acre commercial pad with an EIR.
38	TTM 31896	Rhoads Residential Project	Jeff Rhoads, R&H Wildomar, LLC (951-296-3466)	SFR	131			380-210-003, 004, 005, 008, 016 and 380-160-018	**1/9/2007**	An approved single-family residential tract map for the subdivision of 46.7 acres into 131 lots for future single-family residential development.
32	TTM 31667	Beazer Homes	Lonnie Ellison, (951-698-1350)	SFR	108			380-060-007 380-060-008	**11/15/2006**	An approved Tentative Tract Map (TM 31667) for a 108-lot single family residential subdivision on approximately 35.2 acres.

CITY OF WILDOMAR - CURRENT PLANNING CUMULATIVE DEVELOPMENT PROJECTS MATRIX

APPROVED DEVELOPMENT PROJECTS (UNDER CONSTRUCTION)

MAP EXHIBIT #	PLANNING APPLICATION #	PROJECT NAME	APPLICANT & CONTACT INFORMATION	PROJECT TYPE	SINGLE FAMILY LOTS/UNITS	MULTI-FAMILY UNITS	COMMERCIAL / INDUSTRIAL SQ. FT.	APN(S) INFO.	PROJECT DESCRIPTION
14	PA 13-0089	Villa Sienna Apartment Project	Bryan Bergeron, Foremost Pacific Grp (714-722-1170)	MFR		170 (Apts)		380-290-029	An approved GPA from MHDR (5 - 8 units/acre) to VHDR (14 - 20 units/acre), a Change of Zone from I-P (Industrial Park) to R-3 (General Residential) and a Plot Plan for the development of a 170-unit multi-family apartment project on 9.22 acres.
49	PA 19-0017	St. Frances of Rome Church	William McKeever, WJ McKeever, Inc. (909-825-8048)	Church			26,596 S.F.	366-170-005; 366-170-058; & 366-330-011	Approval for a church expansion within the R- R zone, including an initial study/mitigated negative declaration, located at 21591 Lemon Street consisting of the following: 1) construct a new 1,200 seat sanctuary (16,896 sq. ft.); 2) convert the existing church into a multi-purpose building; 3) construct a new 9,700 sq. ft. office/classroom building; and 4) add 263 new parking spaces bringing the total parking count to 442 parking spaces.
46	PA 17-0111	Faith Bible Church	Francisco Martinez, FM Civil Engineers (951-676-8042)	Church			45,155 S.F.	376-410-002 & 024	A proposal for a proposed 45,155 square-foot (1,100 seats) church, including a 350-space parking lot and athletic field on 25.5 acres located at the terminus of DePasquale and Glaze brook Road. Project includes an EIR, GPA, Parcel Merger, & Plot Plan
36	PA 21-0044 TTM 32206	Bridlewood	Edgar Gomez, Richmond American (714) 613-3073	SFR	60			368-331-020	An approved Tentative Tract Map for the development of 60 single family residential lots ranging in size for 8,000 square feet to 20,000 square feet located at the southwest corner of Ione Lane and Palomar Street.
31	PA 19-0080 TTM 32024	Summerhill Community	Jordon Mastroianni, KB Homes (951-691-5239)	SFR / CR	70			367-140-007 367-140-011	An approved Tentative Tract Map (TM 32024) for a 70-lot single family residential subdivision and future commercial office project on approximately 40 acres.
34	PA 15-0013	Clinton Keith Village Retail Center	Reza Kassraian, PARS Global, LLC (949-250-9863)	CR			40,000 s.f.	362-250-003	A proposed Plot Plan and CUP for a 5-acre project site to develop a 40,000 square-foot commercial retail center, including a 7-Eleven gas station with alcohol sales.
23	PA 08-0179 (PM 32257)	Bundy Canyon Plaza	Ino Cruz, JNT Management Group (951-280-3833)	CR			36,990 s.f.	367-100-019	An approved retail project (CUP 3403) for the construction of a gasoline service station with carwash (Phase 1), and 3 drive-thru restaurants pads, & 2 retail buildings totaling approximately 36,990 square feet(Phase 2) and an approved Parcel Map (PM 32257) for the subdivision of two existing parcels into 6 commercial parcels.

CITY OF WILDOMAR - CURRENT PLANNING CUMULATIVE DEVELOPMENT PROJECTS MATRIX

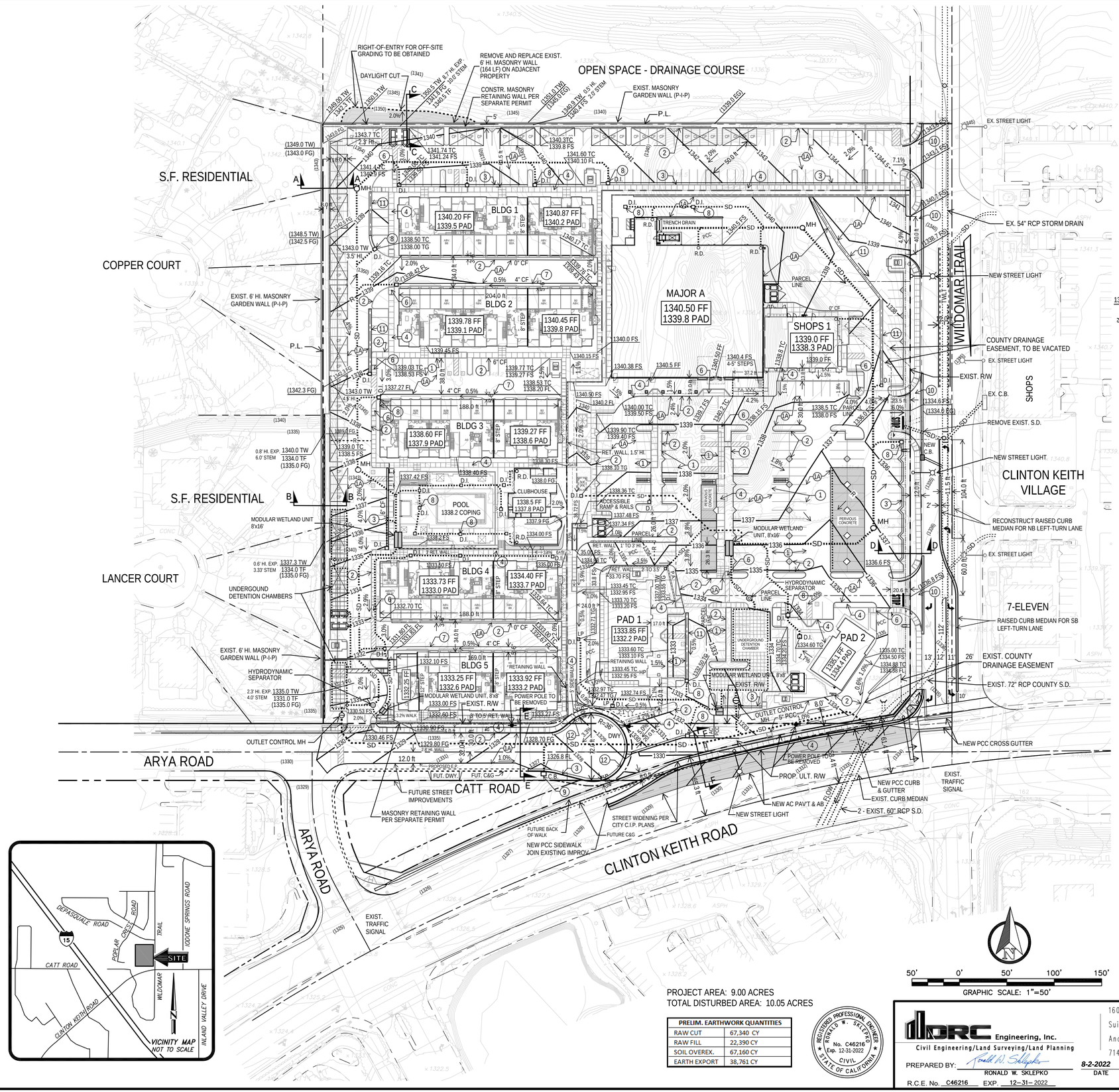
DEVELOPMENT PROJECTS – CONSTRUCTION COMPLETED									
MAP EXHIBIT #	PLANNING APPLICATION #	PROJECT NAME	APPLICANT & CONTACT INFORMATION	PROJECT TYPE	SINGLE FAMILY LOTS/UNITS	MULTI-FAMILY UNITS	COMMERCIAL / INDUSTRIAL SQ. FT.	APN(S) INFO.	PROJECT DESCRIPTION
43	PA 16-0138	Smith Ranch Self Storage Project	Won Yoo, Ranpac Engineering (951-676-7000)	IND			150,000 s.f. (1,100 units) & 10,000 s.f. office bld.	380-290-037; 380-290-038; 380-290-039; 380-290-040	An approved Zone Change, CUP & Variance to establish a 150,000 s.f. self- storage facility with RV parking and 10,000 s.f. office building on 8.35 acres in the M-SC zone.
1	12-0364 (TM 36497)	Briarwood Community	Jarnne Valdez, Lennar Homes (951-817-3567)	SFR	67			380-280-004, 009 & 012	The subdivision of approximately 24 acres into 67 lots for single family residential development (average lot size of 7,772 s.f.) and a plot plan to develop 67 single family dwelling units.
2	12-0392 (TTM 36519)	Kuesder Homes Res.	Mike Leslie (951-522-2405)	SFR	10			367-170-029	A Tentative Tract Map (TM 36519) to subdivide approximately 5.4 acres into 10 lots (1/2 acre lots) for future single-family residential homes.
4	14-0100 TM 32535	North Ranch Community	Jarnne Valdez, Lennar Homes (951-817-3567)	SFR	84			380-110-005 380-110-006	Tentative Tract Map No. 32535 allows for the subdivision of 31.4 acres into 84 lots, and a plot plan for the development of 84 single residential dwelling units known as North Ranch.
20	10-0222	Subway Commercial Project	Onkar Sud (951-818-6551)	CR			10,500 s.f.	366-390-026 & 366-390-027	A retail project consisting of a Change of Zone from R-R to C-1/C-P and a Plot Plan for the development of a 10,500 s.f. multi-tenant retail building on 1 acre.
24	12-0015 (TM 30839 & TM 30939)	Andalusia I	Jarnne Valdez, Lennar Homes (951-817-3567)	SFR	55			N/A	A Final Site Plan of Development for 55 lots within two recorded tracts (42 lots in TM 30839 & 13 lots within TTM 30939)
25	11-0099 (TM 31499)	Meritage Homes	Peter Vanek, Meritage Homes (951-547-8320)	SFR	74			380-090-033 & 034 / 380-090-038, 041	A Final Site Plan of Development package for 74 single family residential dwelling units within TM 31499.

CITY OF WILDOMAR - CURRENT PLANNING CUMULATIVE DEVELOPMENT PROJECTS MATRIX

DEVELOPMENT PROJECTS – CONSTRUCTION COMPLETED									
MAP EXHIBIT #	**PLANNING APPLICATION #**	**PROJECT NAME**	**APPLICANT & CONTACT INFORMATION**	**PROJECT TYPE**	**SINGLE FAMILY LOTS/UNITS**	**MULTI-FAMILY UNITS**	**COMMERCIAL / INDUSTRIAL SQ. FT.**	**APN(S) INFO.**	**PROJECT DESCRIPTION**
26	12-0401 (TTM 31837)	Andalusia II	Jarnne Valdez, Lennar Homes (951-817-3567)	SFR	44			380-410-001 & 019 380-411-001 & 025	A Final Site Plan of Development for Tract Map 31837 for the development of 44 single family residential dwelling units.
28	08-0072 (PM 36080)	Wildomar Square Retail Center	David Horenstein, DH Holdings, LLC (310-229-5960)	CR			46,600 s.f.	380-110-045	A commercial/retail project consisting of six buildings totaling 46,600 square feet on a 4.8 acre site. Includes a parcel map for 6 lots.
33	14-0074	Sycamore Academy Charter School	Barbara Hale, Sycamore Academy (951-678-5217)	EDU			28,000 s.f. 401 students	380-170-020	A Public Use Permit (PUP) for the development of a 28,000 square-foot charter school for 594 students (K-8 grade).
3	TM 25122 & TM 32078	Richmond American	Sondra Harris, Richmond American Homes (949-467-2633)	SFR	149			380-080-008 380-080-009 380-140-001	An approved Tentative Tract Map for the development of 149 single family residential lots (Plot Plan No. 15-0076) located at the southwest corner of Palomar Avenue and McVicar Street.
30	14-0081 (TM 31479)	The Orchard Collection	Pete Pitassi, Diversified Pacific (909-980-1361)	SFR	51			362-240-020, 023, 029, 031 & 032	An approved Plot Plan for the development of 51 single family residential lots (TM 31479) on 15 acres.
42	PA 16-0095	Milestone RV/Boat Storage	Steve Davis, Alliance Services (619-280-0933)	Ind.			182 RV Spaces & 8,300 s.f. of office	380-290-003	An approved CUP & Variance to establish a 182 space Boat/RV storage facility (with solar panels on the roof), including 64 mini-warehouse/self-storage units (approximately 8,300 s.f. in size) on 5 acres.
45	PA 17-0010	Life Storage Mini-Storage	Cain Garcia, Arch. (602) 955-3900	IND			60,000 s.f.	380-290-030	An approved amendment to an existing CUP to add 2-story, 60,800 square-foot mini-warehouse building in the M-SC zone on 9.56 acres.

Key Notes:

SFR = Single Family Residential; MFR = Multi-Family Residential; CR = Commercial Retail; Ind. = Industrial; PO = Professional Office; EDU = Educational

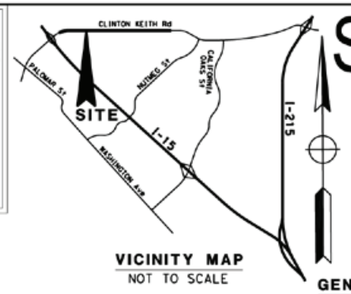

OPEN SPACE - DRAINAGE COURSE
S.F. RESIDENTIAL
COPPER COURT
S.F. RESIDENTIAL
LANCER COURT
ARYA ROAD
CATT ROAD E
CLINTON KEITH ROAD
WILDOMAR TRAIL
CLINTON KEITH VILLAGE
SHOPS
7-ELEVEN
MAJOR A
1340.50 FF
1339.8 PAD
SHOPS 1
1339.0 FF
1338.3 PAD
BLDG 1
1340.20 FF
1339.5 PAD
1340.87 FF
1340.2 PAD
BLDG 2
1339.78 FF
1339.1 PAD
1340.45 FF
1339.8 PAD
BLDG 3
1338.60 FF
1337.9 PAD
1339.27 FF
1338.6 PAD
BLDG 4
1333.73 FF
1333.0 PAD
1334.40 FF
1333.7 PAD
BLDG 5
1333.25 FF
1332.6 PAD
1333.92 FF
1333.2 PAD
CLUBHOUSE
1338.5 FF
1337.8 PAD
POOL
1338.2 COPING
PAD 1
1333.85 FF
1332.2 PAD
PAD 2
1335.5 FF
1334.4 PAD
RIGHT-OF-ENTRY FOR OFF-SITE GRADING TO BE OBTAINED
DAYLIGHT CUT
REMOVE AND REPLACE EXIST. 6' HI. MASONRY WALL (164 LF) ON ADJACENT PROPERTY
CONSTR. MASONRY RETAINING WALL PER SEPARATE PERMIT
EXIST. MASONRY GARDEN WALL (P-I-P)
EXIST. 6' HI. MASONRY GARDEN WALL (P-I-P)
EXIST. 6' HI. MASONRY GARDEN WALL (P-I-P)
MODULAR WETLAND UNIT 8'x16'
UNDERGOUND DETENTION CHAMBERS
HYDRODYNAMIC SEPARATOR
MODULAR WETLAND UNIT, 8'x8'
MODULAR WETLAND UNIT, 8'x16'
OUTLET CONTROL MH
OUTLET CONTROL MH
EXIST. R/W
EXIST. R/W
EX. STREET LIGHT
EX. 54" RCP STORM DRAIN
NEW STREET LIGHT
COUNTY DRAINAGE EASEMENT, TO BE VACATED
EX. STREET LIGHT
EXIST. R/W
EX. C.B.
REMOVE EXIST. S.D.
NEW STREET LIGHT
RECONSTRUCT RAISED CURB MEDIAN FOR NB LEFT-TURN LANE
EX. STREET LIGHT
RAISED CURB MEDIAN FOR SB LEFT-TURN LANE
EXIST. COUNTY DRAINAGE EASEMENT
EXIST. 72" RCP COUNTY S.D.
NEW PCC CROSS GUTTER
POWER POLE TO BE REMOVED
PROP. ULT. R/W
NEW PCC CURB & GUTTER
EXIST. CURB MEDIAN
2 - EXIST. 60" RCP S.D.
NEW AC PAV'T & AB
EXIST. TRAFFIC SIGNAL
NEW STREET LIGHT
STREET WIDENING PER CITY C.I.P. PLANS
FUTURE BACK OF WALK
FUTURE C&G
NEW PCC SIDEWALK JOIN EXISTING IMPROV.
FUTURE STREET IMPROVEMENTS
MASONRY RETAINING WALL PER SEPARATE PERMIT
EXIST. TRAFFIC SIGNAL
PROPOSED E.P. FUT. DWY.
FUT. C&G
PARCEL LINE
RET. WALL, 1.5' HI.
RET. WALL, 1 TO 3' HI.
RET. WALL, 2 TO 3.5' HI.
RETAINING WALL
ACCESSIBLE RAMP & RAILS
PERVIOUS CONCRETE
TRENCH DRAIN
PCC
R.D.
D.I.
SD
MH
C.B.
DWY
0' CF
4" CF
6" CF
8" STEP
6" STEP
5" STEP
4.5" STEPS
4" STEPS
P.A.W.W.
P.L.
5' SIDEWALK
6' SIDEWALK
12" SIDEWALK
TWLT
1343.7 TC
2.3' HI.
1341.74 TC
1341.24 FS
1341.4 FF
1340.9 FS
1340.3 TC
1339.8 FS
1341.60 TC
1340.10 FL
1340.7 TC
1340.2 FS
1339.7 TC
1339.2 FS
1340.0 FS
1340.38 FS
1340.5 FF
1340.4 FS
1339.9 FF
1340.15 FS
1339.45 FS
1339.03 TC
1338.53 FS
1339.77 TC
1339.27 FS
1338.50 TC
1339.20 FL
1337.27 FL
1340.90 FS
1340.00 TC
1339.50 FS
1338.5 TC
1338.0 FS
1339.90 TC
1339.40 FS
1338.10 TG
1338.36 TC
1337.86 FS
1337.48 FS
1337.34 FS
1337.42 FS
1338.40 FS
1338.30 FS
1338.0 FG
1337.9 FG
1334.00 FS
1333.50 FS
1333.45 TC
1332.95 FS
1333.70 TC
1333.20 FS
1333.60 TC
1333.10 FS
1333.45 TC
1332.95 FS
1332.70 TC
1332.10 FS
1332.25 FF
1332.97 TC
1332.74 FS
1332.60 FS
1330.90 FS
1330.46 FS
1329.80 FG
1328.70 FG
1326.8 FL
1339.16 TC
1338.66 FL
1339.78 TC
1339.28 FL
1339.40 TC
1338.90 FL
1343.0 TW
3.5' HI.
1342.5 FG
1340.00 TW
1342.7 FF
1350.5 TW
4.7' HI. EXP.
10.0' STEM
1341.5 FG
1340.5 FF
1350.0 TW
1346.0 EG
1340.9 TW
0.5' HI.
1340.4 FS
2.0' STEM
1339.0 EG
1337.3 TW
3.33' STEM
1334.0 TF
1335.0 FG
1340.0 TW
6.0' STEM
1334.0 TF
1335.0 FG
1335.0 TW
2.3' HI. EXP.
4.0' STEM
1331.0 TF
1335.0 FG
1348.5 TW
1342.5 FG
1342.3 FG
1345.0 TW
1339.0 TW
1338.5 FS
1337.9 FG
1337.3 TW
1334.0 TF
1335.0 FG
1335.0 TW
1331.0 TF
1335.0 FG
1330.0 TW
1329.5 FG
1329.0 TW
1328.5 FG
1328.0 TW
1327.5 FG
1327.0 TW
1326.5 FG
1326.0 TW
1325.5 FG
1325.0 TW
1324.5 FG
1324.0 TW
1323.5 FG
1323.0 TW
1322.5 FG
1322.0 TW
1321.5 FG
1321.0 TW
1320.5 FG

STREET IMPROVEMENT PLANS

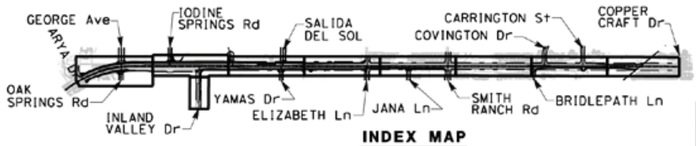
CLINTON KEITH ROAD

INDEX OF SHEETS:

SHEET No.	DESCRIPTION
1	TITLE SHEET, NOTES, DETAILS, QUANTITIES
2-4	TYPICAL SECTIONS
5-14	STREET IMPROVEMENT PLAN AND PROFILE
15-17	CONSTRUCTION DETAILS
1-5	GRADING AND DRAINAGE PLAN
1-3	STAGE CONSTRUCTION
1-5	SIGNING AND STRIPING
1	RETAINING WALL PLAN
1-8	TRAFFIC SIGNAL IMPROVEMENTS



VICINITY MAP
NOT TO SCALE



INDEX MAP
NO SCALE

NOTICE TO CONTRACTOR:

1. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THE LOCATIONS SHOWN HEREIN ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR SO THAT ANY NECESSARY ADJUSTMENTS CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENTS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PREVENT DAMAGE TO ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN.
2. ACTUAL THICKNESS OF BASE MATERIAL IS TO BE DETERMINED BY A SOILS TEST AND RECOMMENDED BY THE SOILS ENGINEER. R-VALUES , SAND EQUIVALENTS AND STRUCTURAL SECTION OF STREETS SHALL BE SUBMITTED TO THE CITY OF WILDOMAR FOR APPROVAL UPON COMPLETION OF ROUGH GRADING.
3. CARE SHOULD BE TAKEN TO PREVENT GRADED DITCHES AND SWALES FROM UNDERMINING STREET IMPROVEMENTS. UPON INSPECTION OF THE SITE, THE CITY ENGINEER MAY REQUIRE TEMPORARY GUNITE SWALES, ENTERING OR EXITING IMPROVEMENTS.
4. THE CONSTRUCTION CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

UTILITY CONTACTS:

SOUTHERN CALIFORNIA EDISON
ATTN: FACILITIES MAPPING, BLDG D
P.O. BOX 11982
SANTA ANA, CA 92711-1982
(714) 796-9932

VERIZON
150 SOUTH JUANITA DRIVE
HEMET, CA 92544

ELSINORE VALLEY MUNICIPAL WATER DISTRICT
P.O. BOX 3000
LAKE ELSINORE, CA 92531-3000
(909) 674-3146

SOUTHERN CALIFORNIA GAS COMPANY
1981 WEST LUGONIA AVENUE
REDLANDS, CA 92374-9796

TIME WARNER CABLE
1581 COMMERCE STREET
CORONA, CA 92880
(951) 549-3977

ELSINORE WATER DISTRICT
P.O. BOX 1019
LAKE ELSINORE, CA 92531
(951) 674-2168

TIME WARNER TELECOM
1340 TREAT BOULEVARD, SUITE 100
WALNUT CREEK, CA 94597
(925) 953-7093

ABBREVIATIONS:

AC	ASPHALT CONCRETE
ATPB	ASPHALT TREATED PERMEABLE BASE
BCR	BEGIN CURB RETURN
Beg	BEGIN
BW	BACK OF SIDEWALK
C&G	CURB AND GUTTER
CMP	CORRUGATED METAL PIPE
DBL	DOUBLE
DWY	DRIVEWAY
ECR	END CURB RETURN
ES	EDGE OF SHOULDER
ETW	EDGE OF TRAVELED WAY
FL	FLOW LINE
FS	FINISHED SURFACE
INV	INVERT ELEVATION
Min	MINIMUM
OGFC	OPEN-GRADED FRICTION COURSE
Prop	PROPOSED
RCP	REINFORCED CONCRETE PIPE
RW	RETAINING WALL
SW	SIDEWALK
TC	TOP OF CURB
TG	TOP OF GRADE
Trans	TRANSITION

GENERAL NOTES:

1. WORK SHALL CONFORM TO THE CALTRANS 2010 STANDARD PLANS, STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, THE RIVERSIDE COUNTY ORDINANCE 461 AND SUBSEQUENT AMENDMENTS AS ADOPTED BY THE CITY OF WILDOMAR.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY TO THE CITY OF WILDOMAR PERMIT SECTION FOR AN ENCROACHMENT PERMIT FOR ALL WORK PERFORMED WITHIN THE PUBLIC RIGHT-OF-WAY AND TO BE RESPONSIBLE FOR SATISFACTORY COMPLIANCE FOR ALL CURRENT ENVIRONMENTAL REGULATIONS DURING THE LIFE OF CONSTRUCTION ACTIVITIES FOR THIS PROJECT. ADDITIONAL STUDIES AND/OR PERMITS MAY BE REQUIRED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING OF THE PROPOSED WORK AREA AND RELOCATION COSTS OF ALL EXISTING UTILITIES. PERMITEE MUST INFORM THE CITY OF WILDOMAR OF THE CONSTRUCTION SCHEDULE AT LEAST 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION. [(951) 677-7751]
4. THE CONTRACTOR SHALL INSTALL STREET NAME SIGNS CONFORMING TO COUNTY STD NO. 816.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER TO INSTALL STREET CENTERLINE MONUMENTS AS REQUIRED BY RIVERSIDE COUNTY ORDINANCE 461.
6. ALL UNDERGROUND FACILITIES WITH LATERALS SHALL BE IN PLACE PRIOR TO PAVING THE STREET SECTION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: SEWER, WATER, ELECTRIC, GAS AND STORM DRAINS.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL AND MAINTAIN ALL CONSTRUCTION, REGULATORY, GUIDE AND WARNING SIGNS WITHIN THE PROJECT LIMITS AND ITS SURROUNDINGS TO PROVIDE SAFE PASSAGE FOR THE TRAVELING PUBLIC AND WORKERS UNTIL THE FINAL COMPLETION AND ACCEPTANCE OF THE PROJECT BY THE CITY, FROM 8:00 AM TO 5:00 PM.
8. A TRAFFIC CONTROL PLAN MUST BE SUBMITTED FOR REVIEW TO THE PERMITS SECTION OR INSPECTION SECTION PRIOR TO OBTAINING AN ENCROACHMENT PERMIT.
9. ALL STREET SECTIONS ARE TENTATIVE. ADDITIONAL SOIL TESTS SHALL BE TAKEN AFTER ROUGH GRADING TO DETERMINE THE EXACT STREET SECTION REQUIREMENTS. USE RIVERSIDE COUNTY STANDARD NO. 401 IF EXPANSIVE SOILS ARE ENCOUNTERED.
10. STREET LIGHTS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED STREET LIGHTING IMPROVEMENT PLANS.
11. ONLY LANDSCAPING CONSISTING OF GRASS AND PARKWAY TREES MAY BE INSTALLED WITHIN PARKWAYS ON LOCAL RESIDENTIAL STREETS WITHOUT SEPARATE LANDSCAPE PLANS. ALL OTHER TYPES OF LANDSCAPING IN THESE AREAS AND ALL LANDSCAPING ON ALL OTHER STREETS SHALL REQUIRE SEPARATE LANDSCAPE PLANS. ALL LANDSCAPING ENCROACHMENTS SHALL CONFORM TO RIVERSIDE COUNTY COMPREHENSIVE LANDSCAPING GUIDELINES DATED OCTOBER 2009.
12. ANY PRIVATE DRAINAGE FACILITIES SHOWN ON THESE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY. BY APPROVING THESE IMPROVEMENT PLANS, NO REVIEW OR APPROVAL OF SAID PRIVATE DRAINAGE FACILITIES ARE IMPLIED OR INTENDED BY THE CITY OF WILDOMAR.
13. CONSTRUCTION PROJECTS DISTURBING MORE THAN ONE ACRE MUST OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT. THE OWNER/CONTRACTOR IS REQUIRED TO FILE A NOTICE OF INTENT (NOI) WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB), PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND MONITORING PLAN FOR THE SITE.
14. PRIOR TO ANY CONSTRUCTION, THE OWNER/CONTRACTOR SHALL PROVIDE THE CITY OF WILDOMAR WITH A COPY OF THE NOI WITH A VALID WDID NUMBER.
15. THE OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ADDITIONAL SIGNS AND MARKINGS NOT INCLUDED IN THE SIGNAGE AND STRIPING PLANS BUT WITHIN THE PROJECT AREAS OR ON ROADWAYS ADJACENT TO THE PROJECT BOUNDARIES UPON THE REQUEST OF THE CITY ENGINEER OR HIS DESIGNEE SO AS TO IMPROVE THE SAFETY ON THE ROADS UNDER THE JURISDICTION OF THE DEVELOPER.
16. EXISTING STORM DRAIN PIPES/CULVERTS (WHETHER TO BE CONNECTED TO, EXTENDED, ADJUSTED, DRAINAGED TO, OR JUST IN THE PROJECT VICINITY) MUST BE REPAIRED, AND/OR CLEANED TO MAKE THEM FUNCTIONAL AND ACCEPTABLE AS DIRECTED BY THE CITY OF WILDOMAR.
17. FOR ALL DRIVEWAY CONSTRUCTION BEYOND RIGHT-OF-WAY, PROOF OF DRIVEWAY OWNER NOTIFICATION IS REQUIRED PRIOR TO CONSTRUCTION.
18. VERIFY ELEVATION PRIOR TO CONSTRUCTION.

STREET CONSTRUCTION NOTES

No.	DESCRIPTION	QUANTITY	UNIT
1	CONSTRUCT TYPE A-8 CURB AND GUTTER PER RIVERSIDE COUNTY STD NO. 201	5,297	LF
2	CONSTRUCT MODIFIED TYPE A-8 CURB AND GUTTER PER RIVERSIDE COUNTY STD NO. 201	6,662	LF
3	CONSTRUCT CURB ADJACENT SIDEWALK PER RIVERSIDE COUNTY STD NO. 401	7,129	SQFT
4	CONSTRUCT CROSS GUTTER PER RIVERSIDE COUNTY STD NO. 209	9,194	SQFT
5	CONSTRUCT CROSS GUTTER PER RIVERSIDE COUNTY STD NO. 210	1,802	SQFT
6	CONSTRUCT RESIDENTIAL DRIVEWAY PER RIVERSIDE COUNTY STD NO. 207	216	SQFT
7	CONSTRUCT CURB RAMP CASE A PER RIVERSIDE COUNTY STD NO. 403	211	CY
8	CONSTRUCT 16' CHAIN LINK GATE PER CALTRANS STD NO. A85	2	EA
9	CONSTRUCT CURB RAMP CASE CM PER CALTRANS STD NO. A88B	36	CY
10	CONSTRUCT CURB RAMP CASE C PER CALTRANS STD NO. A88A	3	CY

STREET CONSTRUCTION NOTES (CONTINUE)

No.	DESCRIPTION	QUANTITY	UNIT
11	CONSTRUCT TYPE 5 RETAINING WALL PER CALTRANS STD NO. B3-4A	117	CY
12	CONSTRUCT CONCRETE BARRIER (TYPE 736A) PER CALTRANS STD NO. B11-56	140	LF
13	CONSTRUCT MODIFIED TYPE D CURB PER RIVERSIDE COUNTY STD NO. 204	8,304	LF
14	CONSTRUCT TYPE D-1 CURB PER RIVERSIDE COUNTY STD NO. 203	1,840	LF
15	CONSTRUCT STAMPED CONCRETE RAISED MEDIAN	8,204	SQFT
16	CONSTRUCT 6' CHAIN LINK FENCE PER CALTRANS STD NO. A85	1,241	LF
17	CONSTRUCT WOOD FENCE	317	LF
18	ADJUST MANHOLE TO GRADE	23	EA
19	ADJUST UTILITY COVER TO GRADE	32	EA
20	CONSTRUCT TRANSITION RAILING (TYPE WB-31) PER CALTRANS STD NO. A77U4	1	EA
21	CONSTRUCT ALTERNATIVE IN-LINE TERMINAL SYSTEM PER CALTRANS STD NO. A77Q1	1	EA
22	GRIND AND OVERLAY EXISTING PAVEMENT (CONSTRUCT PAVEMENT SECTION 4)	526,036	SQFT
23	CONSTRUCT ALTERNATE COMMERCIAL DRIVEWAY PER CITY OF MURRIETA STD NO. 310C	802	SQFT
24	CONSTRUCT 24' CHAIN LINK GATE PER CALTRANS STD NO. A85	1	EA
25	CONSTRUCT CHAIN LINK FENCE TYPE CL-3.5	140	LF
26	CONSTRUCT FRACTURED RIB TEXTURE	484	SQFT
27	INSTALL END CAP (TYPE TC) PER CALTRANS STD NO. A77V1	1	EA
	CONSTRUCT PAVEMENT SECTION 1	76,575	SQFT
	CONSTRUCT PAVEMENT SECTION 2	65,931	SQFT
	CONSTRUCT PAVEMENT SECTION 3	6,720	SQFT
	CONSTRUCT PAVEMENT SECTION 5	3,083	SQFT
	CONSTRUCT PAVEMENT SECTION 6	582	SQFT
	CONSTRUCT PAVEMENT SECTION 7	46,860	SQFT
	ROADWAY EXCAVATION	34,276	CY
	REMOVE EXISTING PAVEMENT	46,733	SQFT
	REMOVE ASPHALT CONCRETE DIKE	9,716	LF
	REMOVE EXISTING SIDEWALK	7,958	SQFT
	REMOVE EXISTING CURB AND GUTTER	3,583	LF
	REMOVE EXISTING CROSS GUTTER	6,363	SQFT
	REMOVE EXISTING CURB RAMP	5,362	SQFT
	REMOVE EXISTING METAL BEAM GUARD RAILING	127	LF
	REMOVE EXISTING FENCE	2,842	LF
	REMOVE EXISTING CHANNELIZERS	99	EA
	REMOVE EXISTING RETAINING WALL	548	SQFT
	REMOVE BOLLARD AND CHAIN	7	EA
28	CONSTRUCT CATCH BASIN PER APWA STD NO. 300-3	40	CY
29	CONSTRUCT 18" CORRUGATED METAL PIPE	42	LF
30	CONSTRUCT 24" X 18" CORRUGATED STEEL PIPE ARCH	1.6	LF
31	CONSTRUCT 30" CORRUGATED METAL PIPE	675	LF
31	CONSTRUCT 48" CORRUGATED METAL PIPE	61	LF
33	CONSTRUCT 72" CORRUGATED METAL PIPE	40	LF
34	CONSTRUCT HEADWALL PER CALTRANS STD NO. D89	9	CY
35	CONSTRUCT WING WALL PER CALTRANS STD NO. D86B	12	CY
36	CONSTRUCT FLARED END SECTION PER CALTRANS STD NO. D94A	2	EA
37	CONSTRUCT RISER PER CALTRANS STD NO. D93B	28	LF
38	CONSTRUCT CONCRETE COLLAR PER APWA STD NO. 380-4	16	EA
39	CONSTRUCT JUNCTION STRUCTURE PER APWA STD NO. 331-3	3.4	CY
40	CONSTRUCT CONNECTION PER APWA STD NO. 335-2	1	EA
41	CONSTRUCT ROCK SLOPE PROTECTION	62	CY
42	CONSTRUCT 8" PERFORATED POLYVINYL CHLORIDE PIPE	11	LF
43	CONSTRUCT 8" POLYVINYL CHLORIDE PIPE	317	LF
	REMOVE EXISTING CATCH BASIN	3	EA
	REMOVE EXISTING CONCRETE DITCH	19	CY
	REMOVE EXISTING PIPE	345	LF
	REMOVE EXISTING ASPHALT CONCRETE OVERSIDE DRAIN	2	EA

DIGALERT
DIAL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG
TOLL FREE 1-800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NOTE:
WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR A GRADING PERMIT HAS BEEN ISSUED.

The private engineer signing these plans is responsible for assuring the accuracy and acceptability of the design hereon. In the event of discrepancies arising after city acceptance or during construction, the private engineer shall be responsible for determining an acceptable solution and revising the plans for acceptance by the city.

MARK	BY	DATE	REVISIONS	APPR.	DATE
	ENGINEER			CITY	

CITY OF WILDOMAR
ACCEPTED BY:
Date:
DAN YORK, City Engineer, PE 43212
ACCEPTANCE AS TO CONFORMANCE WITH APPLICABLE CITY STANDARDS AND PRACTICES

SEAL-ENGINEER:
STEPHANIE HILLEBRAND
No. 65410
Exp. 9/30/15
CIVIL
STATE OF CALIFORNIA

AECOM
999 Town and Country Road
Orange, CA 92868
(714) 567-2400
PREPARED BY: Stephanie Hillebrand
R.C.E. No. 65410 EXP. 9/30/2015

BENCHMARK:
Elevation = ____
Datum = ____
BENCHMARK # ____
THIS SURVEY WAS PERFORMED ON (date) BY (surveyor) L.S. (number), EXP. (date)
SCALE:
H: As Noted V: As Noted

WDID No. XXX CIP 0024
CITY OF WILDOMAR
CLINTON KEITH ROAD WIDENING
STREET IMPROVEMENTS
TITLE SHEET

SHEET No. 1
OF 2435

PLOTTED => 4/14/2015 12:36:21 PM
USERNAME => Catherine.Lampon
DGN FILE => ...\400-Mcad\Sheet Files\ab001.dgn

NOTES:

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO THE TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. EXACT LIMITS OF STRUCTURAL SECTIONS ARE SHOWN ON THE PLANS.
3. FOR LOCATIONS OF RETAINING WALLS, SEE RETAINING WALL PLANS.
4. FOR PAVEMENT SECTION NO. 7, SEE SHEET 17.

STRUCTURAL SECTIONS:

NEW:

[1] 0.54' HMA (TYPE A)
1.75' CLASS 2 AB

[2] 0.54' HMA (TYPE A)
1.25' CLASS 2 AB

[3] 0.42' HMA (TYPE A)
0.42' CLASS 2 AB

[4] 0.33' HMA (TYPE A)

[5] 0.17' HMA (TYPE A)

[6] 0.67' PCC
0.50' CTB

[7] 0.17' OGFC
0.50' ATPB
1.00' CLASS 4 AB

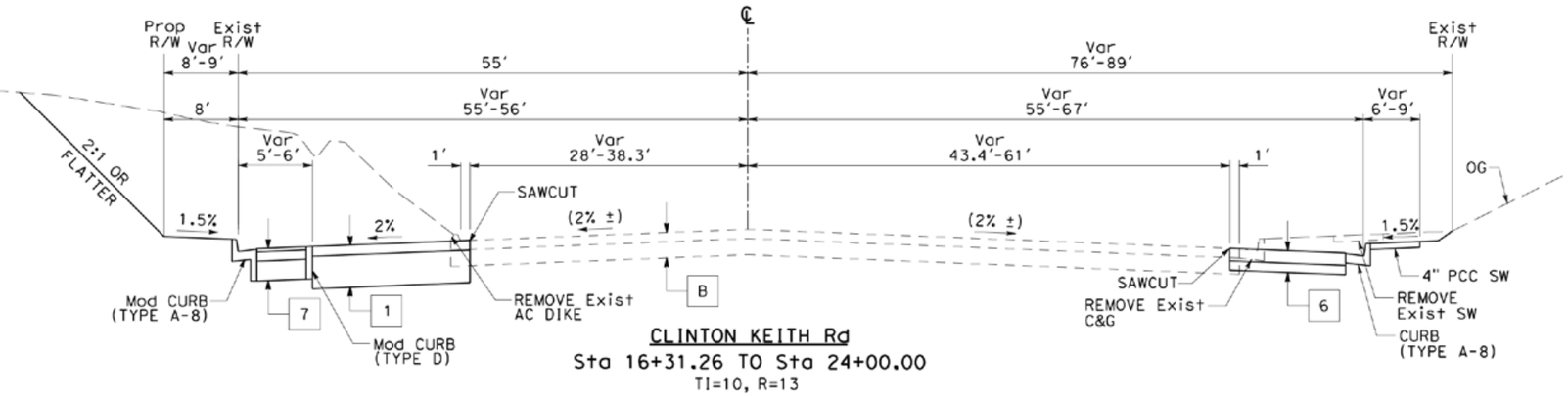
EXISTING:

[A] 0.41' AC
0.55' CLASS 2 AB

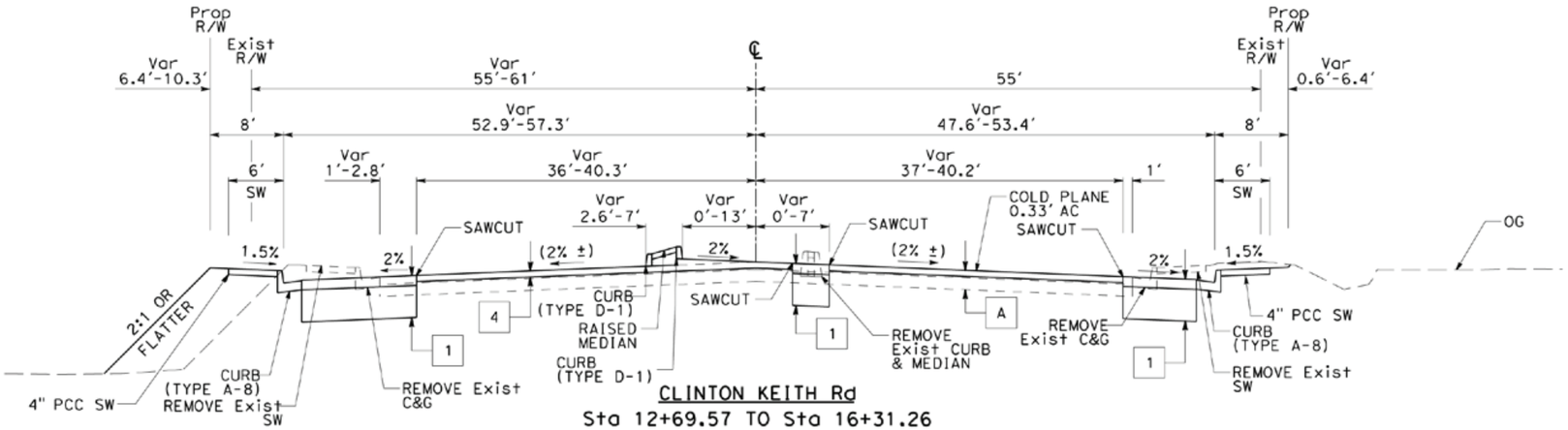
[B] 0.41' AC
0.88' CLASS 2 AB

LEGEND:

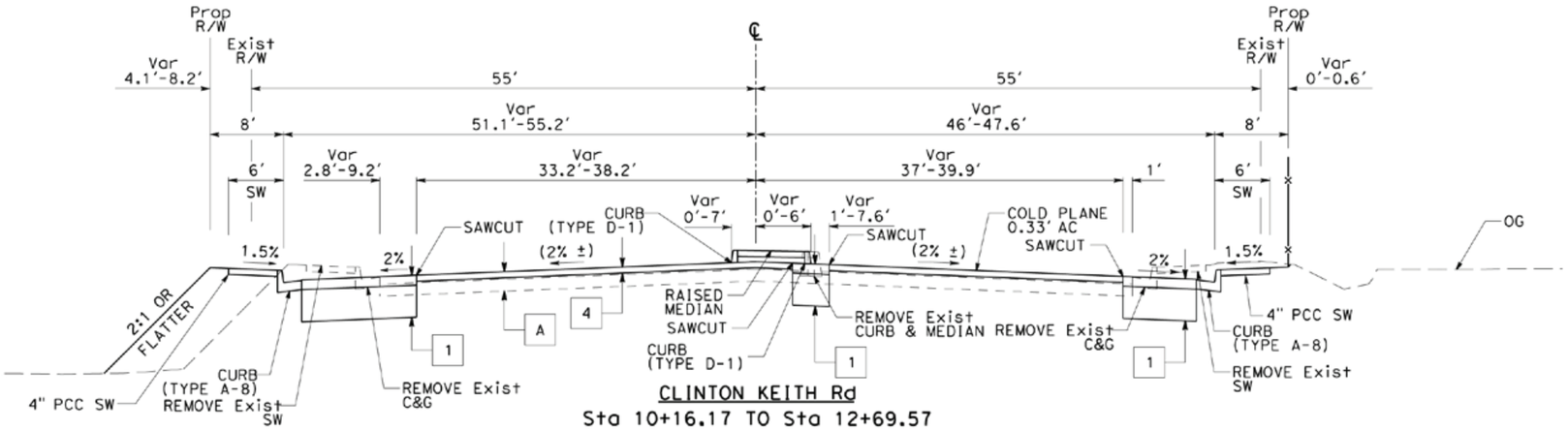
(X.X%) = EXISTING CROSS SLOPE



CLINTON KEITH Rd
Sta 16+31.26 TO Sta 24+00.00
TI=10, R=13



CLINTON KEITH Rd
Sta 12+69.57 TO Sta 16+31.26
TI=10, R=13



CLINTON KEITH Rd
Sta 10+16.17 TO Sta 12+69.57
TI=10, R=13

NO SCALE

DIGALERT
DIAL BEFORE YOU DIG
TWO WORKING DAYS BEFORE YOU DIG
TOLL FREE 1-800-227-2600
A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NOTE:
WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR A GRADING PERMIT HAS BEEN ISSUED.

The private engineer signing these plans is responsible for assuring the accuracy and acceptability of the design hereon. In the event of discrepancies arising after city acceptance or during construction, the private engineer shall be responsible for determining an acceptable solution and revising the plans for acceptance by the city.

MARK	BY	DATE	REVISIONS	APPR.	DATE
				ENGINEER	CITY

CITY OF WILDOMAR
ACCEPTED BY:
Date:
DAN YORK, City Engineer, PE 43212
ACCEPTANCE AS TO CONFORMANCE WITH APPLICABLE CITY STANDARDS AND PRACTICES

SEAL-ENGINEER:
REGISTERED PROFESSIONAL ENGINEER
STEPHANIE HILLEBRAND
No. 65410
Exp. 9/30/15
CIVIL
STATE OF CALIFORNIA

AECOM
999 Town and Country Road
Orange, CA 92868
(714) 567-2400

PREPARED BY: Stephanie Hillebrand
R.C.E. No. 65410 EXP. 9/30/2015

BENCHMARK:
Elevation = _____
Datum = _____
BENCHMARK # _____

THIS SURVEY WAS PERFORMED ON (date) BY (surveyor) L.S. (number), EXP. (date)

SCALE:
H: As Noted V: As Noted

WDID No. XXX CIP 0024

CITY OF WILDOMAR
CLINTON KEITH ROAD WIDENING
STREET IMPROVEMENTS
TYPICAL SECTIONS

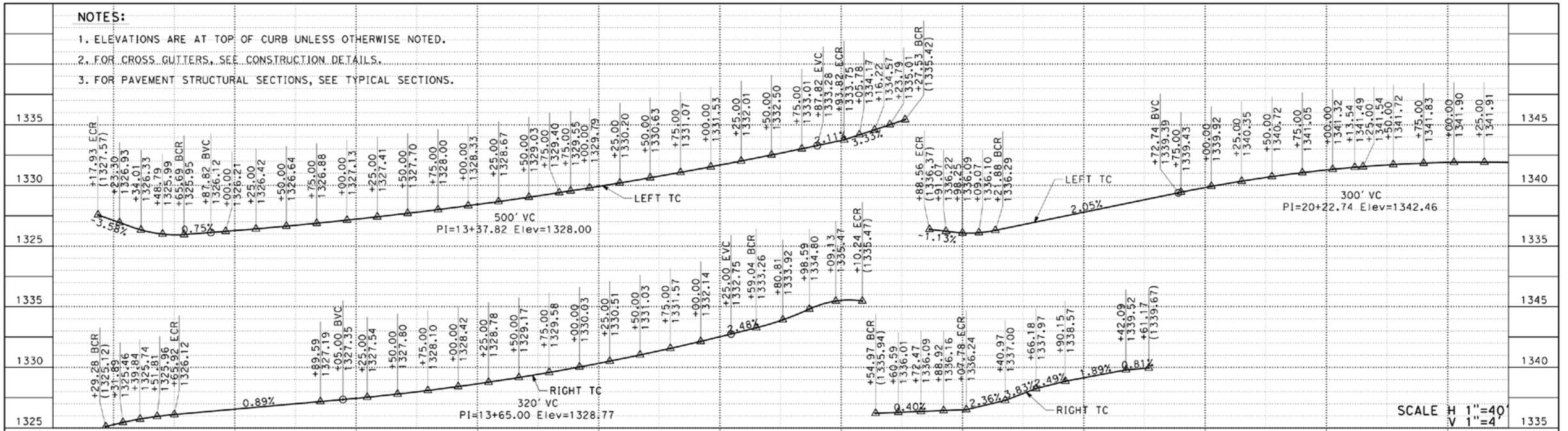
SHEET No. 2
OF 2436

PLOTTED => 4/14/2015
TIME PLOTTED => 4:16:30 PM

USERNAME => Catherine_Lampon
DGN FILE => ...\400-Mcad\Sheet Files\ca001.dgn

NOTES:

1. ELEVATIONS ARE AT TOP OF CURB UNLESS OTHERWISE NOTED.
2. FOR CROSS GUTTERS, SEE CONSTRUCTION DETAILS.
3. FOR PAVEMENT STRUCTURAL SECTIONS, SEE TYPICAL SECTIONS.





CONSTRUCTION NOTES

1. CONSTRUCT TYPE "A-8" CURB PER RIVERSIDE COUNTY STD NO. 201
2. CONSTRUCT MODIFIED TYPE A-8 CURB AND GUTTER PER RIVERSIDE COUNTY STD NO. 201
3. CONSTRUCT CURB ADJACENT SIDEWALK PER RIVERSIDE COUNTY STD NO. 401
4. CONSTRUCT CROSS GUTTER PER RIVERSIDE COUNTY STD NO. 209
5. CONSTRUCT CROSS GUTTER PER RIVERSIDE COUNTY STD NO. 210
7. CONSTRUCT CURB RAMP CASE A PER RIVERSIDE COUNTY STD NO. 403
8. CONSTRUCT CURB RAMP CASE B PER RIVERSIDE COUNTY STD NO. 403
13. CONSTRUCT MODIFIED TYPE D CURB PER RIVERSIDE COUNTY STD NO. 204
16. CONSTRUCT 6' CHAIN LINK FENCE PER CALTRANS STD NO. A85
17. CONSTRUCT WOOD FENCE
18. ADJUST MANHOLE TO GRADE
19. ADJUST UTILITY COVER TO GRADE
22. GRIND AND OVERLAY EXISTING PAVEMENT
23. CONSTRUCT ALTERNATE COMMERCIAL DRIVEWAY PER CITY OF MURRIETA STD NO. 310C

CURVE DATA

No.	R	Δ	T	L
(1)	1800.00'	37°37'02"	613.07'	1181.78'
(2)	50.00'	81°15'11"	42.90'	70.91'
(3)	35.00'	92°25'08"	36.51'	56.46'
(4)	50.00'	100°11'23"	59.79'	87.43'
(5)	50.00'	85°35'19"	46.29'	74.69'
(6)	35.00'	82°09'21"	30.51'	50.19'
(7)	35.00'	88°50'53"	34.30'	54.27'
(8)	50.00'	29°09'01"	13.00'	25.44'
(9)	50.00'	27°35'05"	12.27'	24.07'
(10)	50.00'	21°36'24"	9.54'	18.86'

DIGALERT — DIAL BEFORE YOU DIG — TWO WORKING DAYS BEFORE YOU DIG — TOLL FREE 1-800-227-2600 — A PUBLIC SERVICE BY UNDERGROUND SERVICE ALERT

NOTE: WORK CONTAINED WITHIN THESE PLANS SHALL NOT COMMENCE UNTIL AN ENCROACHMENT PERMIT AND/OR A GRADING PERMIT HAS BEEN ISSUED.

The private engineer signing these plans is responsible for assuring the accuracy and acceptability of the design hereon. In the event of discrepancies arising after city acceptance or during construction, the private engineer shall be responsible for determining an acceptable solution and revising the plans for acceptance by the city.

MARK	BY	DATE
	ENGINEER	

REVISIONS

APPR.	DATE
	CITY

CITY OF WILDOMAR
ACCEPTED BY:
Date:
DAN YORK, City Engineer, PE 43212
ACCEPTANCE AS TO CONFORMANCE WITH APPLICABLE CITY STANDARDS AND PRACTICES

SEAL-ENGINEER: STEPHANIE HILLEBRAND No. 65410 Exp. 9/30/15 CIVIL STATE OF CALIFORNIA

AECOM
999 Town and Country Road
Orange, CA 92868
(714) 567-2400

PREPARED BY: Stephanie Hillebrand
R.C.E. No. 65410 EXP. 9/30/2015

BENCHMARK:
Elevation = _____
Datum = _____
BENCHMARK # _____

THIS SURVEY WAS PERFORMED ON (date) BY (surveyor) L.S. (number), EXP. (date)

SCALE:
H: As Noted V: As Noted

WDID No. XXX
CIP 0024

CITY OF WILDOMAR
CLINTON KEITH ROAD WIDENING
STREET IMPROVEMENTS PLAN AND PROFILE

SHEET No. 5
OF 2437

USERNAME => Catherine_Lampon
DGN FILE => ...\400-Mcad\Sheet Files\ea001.dgn
PLOTTED => 4/14/2015 12:28:01 PM
TIME PLOTTED =>

October 2022 | Response to Comments
State Clearinghouse No. 2022080339

WILDOMAR CROSSROADS MIXED USE PROJECT

City of Wildomar

Prepared for:

City of Wildomar
Matthew Bassi, Planning Director
23873 Clinton Keith Road, Suite 201
Wildomar, California 92595
951.677.7751

Prepared by:

PlaceWorks
Mark Teague, AICP, Associate Principal
3 MacArthur Place, Suite 1100
Santa Ana, CA 92707
714.966.9220
info@placeworks.com
www.placeworks.com

PLACEWORKS

Table of Contents

SECTION **PAGE**

1. INTRODUCTION 1

1.1 BACKGROUND 1

1.2 DOCUMENT FORMAT 1

1.3 CEQA REQUIREMENTS REGARDING COMMENTS AND RESPONSES 1

2. RESPONSE TO COMMENTS 3

APPENDICES

Appendix A Mitigation Monitoring and Reporting Program

Table of Contents

This page intentionally left blank.

1. Introduction

1.1 BACKGROUND

This document includes a compilation of the public comments received on the Wildomar Crossroads Mixed Use Project Initial Study and Mitigated Negative Declaration (collectively, MND; State Clearinghouse No. 2022080339) and the City of Wildomar's (City's) responses to those comments.

Under the California Environmental Quality Act (CEQA), a lead agency is not required to prepare formal responses to comments on an MND. However, CEQA requires the City to have adequate information on the record explaining why the comments do not affect the conclusion of the MND that there are no potentially significant environmental effects. In the spirit of public disclosure and engagement, the City, as the lead agency, has responded to all written comments submitted on the MND during the 30-day public review period, which began August 17, 2022, and ended September 15, 2022.

1.2 DOCUMENT FORMAT

Section 1, ***Introduction.*** This section describes CEQA requirements and the content of this document.

Section 2, ***Response to Comments.*** This section provides a list of agencies and persons commenting on the MND, copies of comment letters received during the public review period, and individual responses to written comments. To facilitate review of the responses, each comment letter has been reproduced and assigned a letter. Individual comments within each letter have been numbered, and the letter is followed by responses with references to the corresponding comment number.

Appendix A, ***Mitigation Monitoring and Reporting Program.*** The Mitigation Monitoring and Reporting Program (MMRP) document lists all the mitigation measures required for implementation of the project, the phase in which the measures would be implemented, and the enforcement agency responsible for compliance. The monitoring program provides (1) a mechanism for giving the lead agency staff and decision makers feedback on the effectiveness of their actions; (2) a learning opportunity for improved mitigation measures on future projects; and (3) a means of identifying corrective actions, if necessary, before irreversible environmental damage occurs.

1.3 CEQA REQUIREMENTS REGARDING COMMENTS AND RESPONSES

CEQA Guidelines, Section 15204(b), outlines parameters for submitting comments on negative declarations, and reminds persons and public agencies that the focus of review and comment of MNDs should be on the proposed findings that the project will not have a significant effect on the environment. If the commenter believes that the project may have a significant effect, they should: (1) Identify the specific effect, (2) Explain why they believe the effect would occur, and (3) Explain why they believe the effect would be significant.

1. Introduction

CEQA Guidelines, Section 15204(c), further advises, "Reviewers should explain the basis for their comments, and should submit data or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts in support of the comments. Pursuant to Section 15064, an effect shall not be considered significant in the absence of substantial evidence."

Section 15204(d) also states, "Each responsible agency and trustee agency shall focus its comments on environmental information germane to that agency's statutory responsibility." Section 15204 (e) states, "This section shall not be used to restrict the ability of reviewers to comment on the general adequacy of a document or of the lead agency to reject comments not focused as recommended by this section."

Finally, CEQA does not require a lead agency to conduct every test or perform all research, study, and experimentation recommended or demanded by commenters. When responding to comments, lead agencies need only respond to potentially significant environmental issues and do not need to provide all information requested by reviewers, as long as a good-faith effort at full disclosure is made in the environmental document.

2. Response to Comments

This section provides all written comments received on the circulated MND and the City's response to each comment.

Comment letters and specific comments within those letters are assigned an alphanumeric designation for reference purposes. The following is a list of all comment letters received on the circulated MND during the 30-day public review period, which began August 17, 2022, and ended September 15, 2022.

Letter Reference	Commenting Person/Agency	Date of Comment	Page No.
A	Riverside County Flood Control and Water Conservation District, Amy NcNeill	August 18, 2022	4
B	Kenny Mayes	September 15, 2022	8

2. Response to Comments

LETTER A – Riverside County Flood Control and Water Conservation District, Amy NcNeill, Engineering Project Manager (2 pages)

52336

August 18, 2022

City of Murrieta
Planning Department
One Town Square
Murrieta, CA 92562-7922

Attention: Mathew Bassi

Re: PA 21-0145, Wildomar Crossroads
APNs: 376-410-015, 016, 017, and 021

The Riverside County Flood Control and Water Conservation District (District) does not usually review land divisions/land use cases or provide State Division of Real Estate letters/flood hazard reports for projects that are located within incorporated cities. Exceptions are made for cases with items of specific interest to the District including District Master Drainage Plan facilities, other regional flood control and drainage facilities which could be considered a logical component or extension of a master plan system, and District Area Drainage Plan fees (development mitigation fees).

The District's review is based on the above-referenced project transmittal, received August 18, 2022. The District has not reviewed the proposed project in detail, and the following comments do not in any way constitute or imply District approval or endorsement of the proposed project with respect to flood hazard, public health and safety, or any other such issue:

☐ This project would not be impacted by District Master Drainage Plan facilities, nor are other facilities of regional interest proposed.

☐ This project involves District proposed Master Drainage Plan facilities, namely, _____. The District will accept ownership of such facilities on written request by the City. The Project Applicant shall enter into a cooperative agreement establishing the terms and conditions of inspection, operation, and maintenance with the District and any other maintenance partners. Facilities must be constructed to District standards, and District plan check and inspection will be required for District acceptance. Plan check, inspection, and administrative fees will be required. All regulatory permits (and all documents pertaining thereto, e.g., Habitat Mitigation and Monitoring Plans, Conservation Plans/Easements) that are to be secured by the Applicant for both facility construction and maintenance shall be submitted to the District for review. The regulatory permits' terms and conditions shall be approved by the District prior to improvement plan approval, map recordation, or finalization of the regulatory permits. There shall be no unreasonable constraint upon the District's ability to operate and maintain the flood control facility(ies) to protect public health and safety.

A-1

☐ This project proposes channels, storm drains 36 inches or larger in diameter, or other facilities that could be considered regional in nature and/or a logical extension a District's facility. The District would consider accepting ownership of such facilities on written request by the City. The Project Applicant shall enter into a cooperative agreement establishing the terms and conditions of inspection, operation, and maintenance with the District and any other maintenance partners. Facilities must be constructed to District standards, and District plan check and inspection will be required for District acceptance. Plan check, inspection, and administrative fees will be required. The regulatory permits' terms and conditions shall be approved by the District prior to improvement plan approval, map recordation, or finalization of the regulatory permits. There shall be no unreasonable constraint upon the District's ability to operate and maintain the flood control facility(ies) to protect public health and safety.

☒ This project is located within the limits of the District's Murrieta Creek (☒Murrieta Valley ☐Temecula Valley ☐Santa Gertrudis Valley ☐Warm Springs Valley) Area Drainage Plan for which drainage fees

have been adopted. If the project is proposing to create additional impervious surface area, applicable fees should be paid (in accordance with the Rules and Regulations for Administration of Area Drainage Plans) to the Flood Control District or City prior to issuance of grading or building permits. Fees to be paid should be at the rate in effect at the time of issuance of the actual permit. A-1 cont'd

☒ An encroachment permit shall be obtained for any construction related activities occurring within District right of way or facilities, namely, Murrieta Valley – George Avenue Storm Drain. If a proposed storm drain connection exceeds the hydraulic performance of the existing drainage facilities, mitigation will be required. For further information, contact the District's Encroachment Permit Section at 951.955.1266. A-2

☐ The District's previous comments are still valid.

GENERAL INFORMATION

This project may need to obtain an applicable National Pollutant Discharge Elimination System (NPDES) permit coverage from the State Water Resources Control Board or the California Regional Water Quality Control Board. Clearance for grading, recordation, or other final approval should not be given until the City has determined that the project has been granted a permit or is shown to be exempt.

If this project involves a Federal Emergency Management Agency (FEMA) mapped floodplain, then the City should require the applicant to provide all studies, calculations, plans, and other information required to meet FEMA requirements, and should further require that the applicant obtain a Conditional Letter of Map Revision (CLOMR) prior to grading, recordation, or other final approval of the project and a Letter of Map Revision (LOMR) prior to occupancy. A-3

The project proponent shall bear the responsibility for complying with all applicable mitigation measures defined in the California Environmental Quality Act (CEQA) document (i.e., Negative Declaration, Mitigated Negative Declaration, Environmental Impact Report) and/or Mitigation Monitoring and Reporting Program, if a CEQA document was prepared for the project. The project proponent shall also bear the responsibility for complying with all other federal, state, and local environmental rules and regulations that may apply. A-4

If a natural watercourse or mapped floodplain is impacted by this project, the City should require the applicant to obtain a Section 1602 Agreement from the California Department of Fish and Wildlife and a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, or written correspondence from these agencies indicating the project is exempt from these requirements. A Clean Water Act Section 401 Water Quality Certification may be required from the local California Regional Water Quality Control Board prior to issuance of the Corps 404 permit. A-5

Very truly yours,

AMY MCNEILL
Engineering Project Manager

ec: Riverside County Planning Department
Attn: Phayvanh Nanthavongdouangsy

@@:@@

2. Response to Comments

A. Response to Comments from Riverside County Flood Control and Water Conservation District, Amy McNeill, Engineering Project Manager, dated August 18, 2022.

A-1 The commenter states that the Riverside County Flood Control and Water Conservation District does not normally review land use cases for projects in incorporated cities. The commenter states that the project is located within the limits of the District's Murrieta Creek (Murrieta Valley) Area Drainage Plan where drainage fees have been adopted. The commenter states that if the project is proposing to create additional impervious surface area, applicable fees should be paid.

The project applicant would pay the appropriate fees to the Flood Control District prior to issuance of a grading permit (City of Wildomar Municipal Code Section 16.32.040).

A-2 The commenter states that an encroachment permit shall be obtained for any construction related activities occurring within the District's right of way or facilities, namely, Murrieta Valley – George Avenue Storm Drain. The commenter also states that if a proposed storm drain connection exceeds the hydraulic performance of the existing drainage facilities, mitigation will be required.

The project applicant would submit an application to the District for an encroachment permit for work performed within the public right of way, pursuant to City of Wildomar Municipal Code Section 12.08.060.

As stated in Section V.10, *Hydrology and Water Quality,* of the MND, the proposed development would not adversely affect the existing drainage patterns in the area and would provide adequate protection for the proposed on-site improvements and structures for up to the 100-year storm event. The required detention basin volumes would be sized to maintain the post-development discharge rates to the pre-development discharge rates up to the 100-year storm events, and as such, there would be no exceedances in the hydraulic performance. No mitigation is necessary.

A-3 The commenter states the project may require a National Pollutant Discharge Elimination System (NPDES) permit from the State Water Resources Control Board. The commenter states that if the site is within a Federal Emergency Management Agency (FEMA)-mapped floodplain or if the project would impact a natural watercourse, the City should enforce state and federal requirements.

As stated in Section V.10, *Hydrology and Water Quality,* of the MND, the project would comply with the NPDES regulations. Additionally, the site is not within a FEMA floodplain and would not impact a natural watercourse.

A-4 The commenter states that the project applicant shall bear the responsibility for complying with all applicable mitigation measures are indicated in the MND and MMRP. The commenter states that if a natural watercourse or mapped floodplain is impacted, the City

should require the applicant to obtain a Section 1602 Agreement and Section 401 Certification.

The project applicant would implement all mitigation measures as listed in the MMRP (see Appendix A to document).

A-5 The commenter states that if a natural watercourse or mapped floodplain is impacted, the City should require the applicant to obtain a Section 1602 Agreement and Section 401 Certification.

The proposed project would not impact a natural water course or floodplain.

2. Response to Comments

LETTER B – Kenny Mayes (1 page)

From: Wildomar Connected
To: Matthew Bassi
Subject: Wildomar Crossroads Mixed-Use Project (Planning Application No. 21-0145)
Date: Thursday, September 15, 2022 5:51:59 AM

Some of my concerns about this project

How many two drive-through restaurants pads are currently approved, yet unbuilt, in the numerous projects throughout Wildomar. B-1

How much in DIF Fees will be collected for parks and how much will be collected in annual Measure Z tax. B-2

Catt Rd entrance to the project will split through one drive thru exit (used by coffee restaurant and drive thru restaurant), and one drive through entrance. How is that going to work? B-3

Of the three exits on Wildomar Trail, how many or right-turn only? B-4

How much electrical power will this project consume when complete and operating. Can Edison provide it? Is Edison required to provide a "will serve letter"?, like the water district. B-5

Will the vacant lot at Arya/Catt/Clinton Keith be fenced off to prevent unauthorized parking B-6

Tree selection should eliminate trees with falling fruit.
Ulmus Parvifolia (Chinese Elm) prolific windblown seeds develop into aggressive seedlings and invade without contributing as a food source B-7

Kenny Mayes
Wildomar

B. Response to Comments from Kenny Mayes, dated September 15, 2022.

B-1 The commenter asks how many drive-thru restaurants have been approved by the City.

This comment does not raise an issue with the analysis or conclusions of the MND. No further response is necessary.

B-2 The commenter inquires about the amount of Development Impact Fees (DIFs) that will be collected for parks in addition to amount collected in annual Measure Z Tax.

According to the City of Wildomar Development Impact Fee Schedule adopted on July 1, 2022, the development would be required to pay $678 per unit in parkland acquisition fees and $6,780 per unit in park improvement fees. There are 150 multi-family residential units in the project so the applicant would be required to pay $1,118,70.00 in park related DIFs to the City. Pursuant to Chapter 3.18 of the Wildomar Municipal Code, residents of Wildomar Crossroads would pay the Measure Z tax that helps fund repair and maintenance of parks of $28 each year.

B-3 The commenter inquires about the internal access to Pad 1 and Pad 2 of the commercial potion of the proposed project.

As stated in Section V.17, *Transportation*, the project would be reviewed by the City and the CAL FIRE/Riverside County Fire Department to ensure there is sufficient emergency access provided at the site as required by the City of Wildomar Municipal Code 8.28, Fire Code, for compliance with the California Fire Code. This would ensure that all portions of the project are provided adequate access for emergency vehicles.

B-4 The commenter asks which entrances/exits to the proposed project on Wildomar Trail will be right-turn only.

As shown in Figure 2A of Appendix 16 of the MND, at least one of the entrances/exits would be right-turn only. However, ingress/egress plans will be reviewed and finalized by CAL FIRE/Riverside County Fire Department and the City of Wildomar Public Works Department.

B-5 The commenter asks how much electrical power the proposed project will consume during operation. The commenter also asks whether the electrical utility provider for the project, Southern California Edison (SCE), can provide this power. Finally, the commenter inquires as to whether the project would be required to receive a "will serve" letter from SCE.

As stated in Section V.6, *Energy*, the project is expected to use approximately 1.85 million kilowatt-hours per year (kWh/year) to serve operational demands. SCE provided over 103,597 gigawatt-hours (GWh) of electricity to its customers in 2020. Total electricity demand in SCE's service area is forecast to increase by approximately 12,000 GWh

2. Response to Comments

between 2015 and 2026. The increase in electricity demand from the project would represent an insignificant percent increase compared to overall demand in SCE's service area. Prior to final building plan submittal, the project applicant would provide project plans to SCE to prepare a Method-of-Service Study to determine exact location of electrical connections at the site and establish estimated electricity demand.

B-6 The commenter asks whether the vacant lot adjacent to the southwest border of the proposed project on Arya Road and Catt Road would be fenced off to prevent unauthorized parking.

As shown in Figure 4, *Site Plan,* of the MND, the vacant lot would be landscaped, thereby discouraging unauthorized parking.

B-7 The commenter suggests that the project's tree selection should eliminate trees with falling fruit, such as Ulmus Parvifolia (Chinese Elm).

The landscape palette would include native vegetation and would be reviewed by the City of Wildomar Planning Department.

October 2022 | Mitigation Monitoring and Reporting Program
State Clearinghouse No. 2022080339

WILDOMAR CROSSROADS MIXED USE PROJECT

City of Wildomar

Prepared for:

City of Wildomar
Matthew Bassi, Planning Director
23873 Clinton Keith Road, Suite 201
Wildomar, California 92595
951.677.7751

Prepared by:

PlaceWorks
Mark Teague, AICP, Associate Principal
3 MacArthur Place, Suite 1100
Santa Ana, CA 92707
714.966.9220
info@placeworks.com
www.placeworks.com

PLACEWORKS

Table of Contents

Section **Page**

1. INTRODUCTION 1
1.1 PURPOSE OF MITIGATION MONITORING AND REPORTING PROGRAM 1
1.2 PROJECT CHARACTERISTICS 2
1.3 ENVIRONMENTAL IMPACTS 3
2. MITIGATION MONITORING PROCESS 5
2.1 MITIGATION MONITORING PROGRAM ORGANIZATION 5
2.2 CITY OF WILDOMAR 5
2.3 MITIGATION MONITORING TEAM 5
2.4 DISPUTE RESOLUTION 6
2.5 ENFORCEMENT 6
3. MITIGATION MONITORING REQUIREMENTS 7
3.1 PREMONITORING MEETING 7
3.2 CATEGORIZED MITIGATION MEASURES/MATRIX 7
3.3 IN-FIELD MONITORING 7
3.4 DATABASE MANAGEMENT 7
3.5 COORDINATION WITH CONTRACTORS 7
3.6 LONG-TERM MONITORING 7
4. MITIGATION MONITORING REPORTS 18
4.1 FIELD CHECK REPORT 18
4.2 IMPLEMENTATION COMPLIANCE REPORT 18
4.3 DISPUTE/ENFORCEMENT REPORT 18
5. COMMUNITY INVOLVEMENT 20
6. REPORT PREPARATION 22
6.1 LIST OF PREPARERS 22

List of Tables

Table **Page**

Table 3-1 Mitigation Monitoring Requirements 8

1. Introduction

1.1 PURPOSE OF MITIGATION MONITORING AND REPORTING PROGRAM

The City of Wildomar (City) is the lead agency for the proposed Wildomar Crossroads Mixed Use Project and has developed this Mitigation Monitoring and Reporting Program (MMRP) as a vehicle for monitoring mitigation measures outlined in the Wildomar Crossroads Mixed Use Project Mitigated Negative Declaration (MND), State Clearinghouse No. 2022080339. As the lead agency, the City is responsible for implementing the MMRP, which has been prepared in conformance with Section 21081.6 of the California Public Resources Code, as follows:

> (a) When making findings required by paragraph (1) of subdivision (a) of Section 21081 or when adopting a mitigated negative declaration pursuant to paragraph (2) of subdivision (c) of Section 21080, the following requirements shall apply:
>
> (1) The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead or responsible agency, prepare and submit a proposed reporting or monitoring program.
>
> (2) The lead agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based.

The MMRP consists of mitigation measures that avoid, reduce, and/or fully mitigate potential environmental impacts. The mitigation measures have been identified and recommended through preparation of the MND and drafted to meet the requirements of Public Resources Code, Section 21081.6.

1.2 PROJECT CHARACTERISTICS

1.2.1 Project Location

The project site is in the southeast portion of the City of Wildomar, California at 24850-23980 Catt Road, at the northwest intersection of Clinton Keith Road and Wildomar Trail. It covers approximately 9 acres and is comprised of Assessor's Parcel Numbers (APNs) 376-410-015, -016, -017, and -021. Regional access is provided by Interstate 15 (I-15) located approximately 0.2-mile southwest of the project site.

1.2.2 Proposed Improvements

This project proposes the construction of a 150-unit "gated" multi-family apartment community and 35,422 square-foot commercial retail center. Access to the residential portion of the site would be provided via two gated entrances/exits. Catt Road would be extended from Arya Road to function as a project driveway and one access point would be provided at the southwest corner of the site via this driveway. The other residential access point would be provided on the northeast corner of the project via Wildomar Trail and include an internal driving aisle that extends around the north and west perimeter of the project linking the two access points. The commercial portion would be accessible from three points along Wildomar Trail. The Catt Road driveway would extend into the commercial portion of the project. The project also includes 0.85 acres of off-site improvements and dedications. These include a 0.38-acre Catt Road improvement, a 0.20-acre Wildomar Trail improvement, and a 0.26-acre Clinton Keith Road improvement. An additional 0.10-acre is proposed as a Catt Road vacation for the commercial portion of the project with an easement retained for public utilities. An additional 0.007-acre will be dedicated for Clinton Keith Road and 0.016-acre dedicated for Catt Road. The project, including the residential, commercial and roadway improvements, totals 10.02 acres.

The project would require the following entitlement approvals by the City of Wildomar:

- **Tentative Parcel Map (TPM 38333):** The project will require approval of a Tentative Parcel Map to subdivide the 9-acre site into five (5) parcels to accommodate the 150-unit residential apartment community and 35,422 square-foot commercial retail center.

- **Conditional Use Permit (CUP) No. 21-0145:** The proposed Sprouts Grocery store will require approval of a CUP to allow for alcohol sales in accordance with Section 17.248 of the WMC.

- **Plot Plan No. 21-0145 :** The project will require approval of a commercial Plot Plan to develop the 4.53-acre commercial retail site with 35,422 square feet of retail and restaurant uses, including site planning, architecture, landscaping, parking, etc. and on-site and off-site improvements consistent with the city's commercial objective design standards and guidelines.

- **Plot Plan/Final Site Plan of Development:** The project will require approval of a plot plan/final site plan of development to develop the 150-unit apartment community (33.5 units/acre density) on the 4.48-acre site to, including site planning, architecture, landscaping, parking, etc. consistent with the city's multi-family objective residential design standards and guidelines.

1.3 ENVIRONMENTAL IMPACTS

1.3.1 Impacts Considered Less Than Significant

The MND identified various thresholds from the California Environmental; Quality Act (CEQA) Guidelines in a number of environmental categories that would not be significantly impacted by the proposed project and therefore did not require mitigation. Impacts to the were found to be less than significant:

- Aesthetics
- Agriculture and Forestry Resources
- Energy
- Greenhouse Gas Emissions
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems

1.3.2 Potentially Significant Adverse Impacts That Can Be Mitigated, Avoided, or Substantially Lessened

Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Noise, Transportation, Tribal Cultural Resources, and Wildfire were identified as having potentially significant impacts that could be reduced, avoided, or substantially lessened through implementation of mitigation measures. No significant and unavoidable impacts were identified.

1. Introduction

This page intentionally left blank.

2. Mitigation Monitoring Process

2.1 MITIGATION MONITORING PROGRAM ORGANIZATION

Overall MMRP management is the responsibility of the City of Wildomar. The City's technical consultants (CEQA consultant, etc.) may perform related monitoring tasks under the direction of the environmental monitor if they are contracted by the City.

2.2 CITY OF WILDOMAR

As the lead agency, the City is responsible for the review of all monitoring reports, enforcement actions and document disposition. The City will rely on information provided by individual monitors (e.g., CEQA consultant, etc.) as accurate and up to date, and will field check mitigation measure status, as required.

2.3 MITIGATION MONITORING TEAM

The mitigation monitoring team, consisting of the designated Project Manager (City Planning Director) and Technical Consultants (CEQA consultant, etc.) are responsible for monitoring implementation and compliance with all adopted mitigation measures and conditions of approval. A major portion of the team's work is in-field monitoring and compliance report preparation. Implementation disputes are brought to the Project Manager, and any appeals would go to the City Manager and ultimately the Planning Commission and City Council.

2.3.1 Monitoring Team

The following summarizes key positions in the MMRP and their respective functions:

- **Project Manager:** Responsible for coordination of mitigation monitoring team, technical consultants, report preparation, and overall program administration and document/report clearinghouse.
- **Construction Contractor:** Responsible for coordination of mitigation monitoring team; technical consultants; report preparation; and implementation the monitoring program, including overall program administration, document/report clearinghouse, and first phase of dispute resolution.
- **Technical Consultants:** Responsible for monitoring in respective areas of expertise (CEQA consultant, project engineer, noise analyst/specialist). Report directly to the Project Manager.

2.3.2 Recognized Experts

The use of recognized experts on the monitoring team is required to ensure compliance with scientific and engineering mitigation measures. The mitigation monitoring team's recognized experts assess compliance with required mitigation measures, and recognized experts from responsible agencies consult with the Project Manager regarding disputes.

2.4 DISPUTE RESOLUTION

If the mitigation monitor determines that a mitigation measure, in the opinion of the monitor, has not been implemented or has not been implemented correctly, the problem will be brought before the Project Manager for resolution. The decision of the Project Manager is final unless appealed to the City Manager. The Project Manager will have the authority to issue stop-work order until the dispute is resolved.

2.5 ENFORCEMENT

Public agencies may enforce conditions of approval through their existing police power, using stop-work orders, fines, infraction citations, or in some cases, notice of violation for tax purposes.

3. Mitigation Monitoring Requirements

3.1 PREMONITORING MEETING

A pre-monitoring meeting will be scheduled to review mitigation measures, implementation requirements, schedule conformance, and mitigation monitoring committee responsibilities. Committee rules are established, the entire mitigation monitoring program is presented, and any misunderstandings are resolved.

3.2 CATEGORIZED MITIGATION MEASURES/MATRIX

Project-specific mitigation measures have been categorized in matrix format, as shown in Table 3-1, *Mitigation Monitoring Requirements for Wildomar Crossroads Mixed Use Project*. The matrix identifies the environmental factor, specific mitigation measures, schedule, and responsible monitor. The mitigation matrix will serve as the basis for scheduling the implementation of, and compliance with, all mitigation measures. These mitigation measures are also contained in the Conditions of Approval matrix for the Project.

3.3 IN-FIELD MONITORING

Project monitors and technical subconsultants shall exercise caution and professional practices at all times when monitoring implementation of mitigation measures. Protective wear (e.g. hard hat, glasses) shall be worn at all times in construction areas. Injuries shall be immediately reported to the mitigation monitoring committee.

3.4 DATABASE MANAGEMENT

All mitigation monitoring reports, letters, and memos shall be prepared utilizing Microsoft Word software on IBM-compatible PCs.

3.5 COORDINATION WITH CONTRACTORS

The construction manager is responsible for coordination of contractors and for contractor completion of required mitigation measures.

3.6 LONG-TERM MONITORING

Long-term monitoring related to several mitigation measures will be required, including fire safety inspections. Post-construction fire inspections are conducted on a routine basis by the City of Wildomar Fire Department.

3. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
AIR QUALITY					
AQ-1	During the site preparation phase, construction equipment greater than 150 horsepower (hp), the Construction Contractor shall ensure that off-road diesel construction equipment that complies with Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.	Construction Contractor	During site preparation	City of Wildomar Engineering Department and Planning Department	
AQ-2	All actively graded (disturbed) areas within the project site during site preparation activities shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12 percent in maintained for actively graded areas. Moisture content can be verified with use of a moisture probe by the grading contractor.	Construction Contractor	During site preparation	City of Wildomar Engineering Department and Planning Department	
BIOLOGICAL RESOURCES					
BIO-1	The Project applicant/developer shall retain a qualified biologist to conduct a 30-day pre-construction survey for burrowing owls (BUOW). The results of the survey shall be submitted to the City of Wildomar prior to obtaining a grading permit. If BUOW are not detected during the pre-construction survey, no further mitigation is required. If BUOW are detected during the pre-construction survey, the project applicant shall relocate burrowing owls out of harm's way, in consultation with the CDFW. Notification to the CDFW shall occur if burrowing owls are found to be present onsite and the development of a conservation strategy in cooperation with the U/S/ Fish and Service, the CDFW, and the Western Riverside County Regional Conservation Authority (RCA) shall be conducted. The project applicant/developer and a qualified consulting biologist will be required to prepare and submit for approval a BUOW relocation program. The report shall be submitted to the applicant and the City of Wildomar concurrently.	Project Applicant and Qualified Biologist	Within 30 days prior to construction, prior to issuance of grading permits	City of Wildomar Planning Department	
BIO-2	Prior to vegetation clearance, the Project applicant/developer shall retain a qualified biologist to conduct a pre-disturbance nesting bird survey in accordance with the following: • The survey shall be conducted no more than three (3) days prior to the initiation of clearance/construction work; • If pre-disturbance surveys indicate that bird nests are not present or are inactive, or if potential habitat is unoccupied, no further mitigation is required; • If active nests of birds are found during the surveys, a species-specific no-disturbance buffer zone shall be established by a qualified biologist around active	Project Applicant and Biologist	Within three (3) days prior to the initiation of clearance/ construction work, prior to vegetation clearance	City of Wildomar Planning Department	

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	nests until a qualified biologist determines that all young have fledged (i.e., no longer reliant upon the nest).				
CULTURAL RESOURCES					
CUL-1	**Human Remains.** If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.	Professional archaeologist	During any ground-disturbing construction activities	City of Wildomar Engineering Department and Planning Department	
GEOLOGY AND SOILS					
GEO-1	The project applicant/developer shall incorporate the recommendations of the Geotechnical Report prepared Leighton and Associates, Inc. (**Appendix 8)** into project plans related to the proposed project. The project's building plans shall demonstrate that they incorporate all applicable recommendations of the Geotechnical Report and comply with all applicable requirements of the latest adopted version of the California Building Code.	Project Applicant and licensed professional engineer	During building plan check, prior to any ground-disturbing construction activities	City of Wildomar Planning Department and Building and Safety Department	
GEO-2	A paleontological grading observation schedule by a Certified Paleontologist shall be maintained when grading in bedrock units to further evaluate the fossil resources of the site. Salvage operations shall be initiated by the Certified Paleontologist and coordinated with the developer if other significant concentrations of fossils, as determined by the Certified Paleontologist, are encountered. Any paleontological resources shall be provided for curation at a local curation facility, or any other local museum or repository willing and able to accept and house the resource to preserve for future scientific study.	Project Applicant and professional paleontologist	During ground-disturbing construction activities	City of Wildomar Planning Department and Building and Safety Department	
HAZARDS AND HAZARDOUS MATERIALS					
HAZ-1	Prior to the development of the site, representative sampling of the soil stockpiles shall be conducted. Soil samples shall be analyzed by a laboratory licensed with the Environmental Laboratory Accreditation Program [ELAP] for total petroleum	Project Applicant and qualified	Prior to site development	City of Wildomar Building Department, Local Health	

3. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	hydrocarbon chains by EPA Method 8015M, Title 22 Metals by EPA Method 6010B/7471A, organochlorine pesticides by EPA Method 8081A, volatile organic compounds by EPA Method 8260B/5035 and polychlorinated biphenyls by EPA Method 8082. During stockpile testing, a soil sample shall be collected from the area where an orchard may have been located and tested for organochlorine pesticides to assess for residual pesticides. If the results of the soil testing show chemical levels are below EPA Region 9 or DTSC screening levels for residential land use, grading or excavation may proceed accordingly. Remediation and/or removal of contaminated soils shall be made prior to development, if chemical levels are above screening levels. Remediation shall be made in coordination with the local health department, SCAQMD, the California Department of Toxic Substances Control, the U. S. Environmental Protection Agency or other regulatory agencies and in compliance with established residential screening levels.	hazardous materials specialist		Department, SCAQMD, California Department of Toxic Substances Control, U.S. Environmental Protection Agency	
HAZ-2	After grading is completed, but before construction begins, the project Applicant/developer shall install soil gas probes with a 100-foot grid spacing in the footprints of the proposed structures, at depths of 5 feet below ground surface and 15 feet below ground surface at each location. Methane shall be tested from the probes with a properly calibrated hand-held device with a detection limit of no greater than 500 ppmv, or via a laboratory licensed with ELAP by ASTM Method 1946D, or a combination of the two. In addition, calibrated pressure gauges such as Magnehelic gauges or equivalent with a range of 0-10 inches of water pressure to a range of 0-100 inches of water pressure shall be used on each probe. If methane levels in probes are below 10 percent of the Lower Explosive Limit (10 percent LEL or 5,000 ppmv), the project could proceed without further action. For areas of the site that have methane concentrations at or exceeding 10 percent LEL or have pressures exceeding 3 inches of water, further testing shall be implemented to determine if a methane mitigation system is necessary. If additional weekly testing shows that methane concentrations consistently exceed 10 percent LEL or have pressures exceeding 3 inches of water over a period of 30 days and a plot of the resulting data does not show a downward trend in concentrations or pressures, then a methane mitigation system shall be incorporated into the building plans for the structures where the elevated concentrations and/or pressures were observed. If there is a downward trend but the concentrations are still above 10 percent LEL or have pressures above 3 inches of water, then additional testing past 30 days may be requested to determine if concentrations and pressures subside below the action levels.	Project Applicant and qualified hazardous materials specialist	After grading but prior to construction	City of Wildomar Building Department, Local Health Department, SCAQMD, California Department of Toxic Substances Control, U.S. Environmental Protection Agency	

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
HAZ-3	Prior to the issuance of building permits, the project applicant shall demonstrate, to the satisfaction of the City Building Official and the Riverside County Fire Chief, compliance with the 2019 California Building Code (or the most recent edition) (Part 2 of Title 24 of the California Code of Regulations) and the 2019 California Fire Code (or the most recent edition) (Part 9 of Title 24 of the California Code of Regulations), including those regulations pertaining to materials and construction methods intended to mitigate wildfire exposure as described in the 2019 California Building Code and California Residential Code (or most recent edition); specifically California Building Code Chapter 7A; California Residential Code Section R327; California Residential Code Section R337; California Referenced Standards Code Chapter 12-7A; and California Fire Code Chapter 49.	Riverside County Fire Department	Prior to issuance of a Certificate of Occupancy	City of Wildomar and Riverside County Fire Department	
HAZ-4	Prior to the issuance of a certificate of occupancy, the applicant shall demonstrate, to the satisfaction of the City Building Official and the County Fire Chief, compliance with the vegetation management requirements prescribed in California Fire Code Section 4906 and California Government Code Section 51182.	Riverside County Fire Department	Prior to issuance of a Certificate of Occupancy	City of Wildomar and Riverside County Fire Department	
NOISE					
NOI-1	The following mitigation measure from the Clinton Keith Road Widening Project IS/MND (SCH# 200910103) would also be applicable to the proposed project (numbering is from 2009 IS/MND): All noise producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers and air-inlet silencers, where appropriate, in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.	Construction Contractor	Prior to construction	City of Wildomar Building Department	
TRANSPORTATION					
TRF-1	The following mitigation measure from the Clinton Keith Road Widening Project IS/MND (SCH# 200910103) would also be applicable to the proposed project (numbering is from 2009 IS/MND): During final design, stage construction and detour plans will be prepared to minimize disruption to the traveling public. Such plans shall be prepared in consultation with affected local jurisdictions prior to construction. Adequate access shall be provided at all times to and from side streets serving adjacent land uses. To further ensure public safety, proper detours and warning signs shall be established. The stage construction and detour plans shall be designed to not interfere with any emergency response or	Construction Contractor	During final design	City of Wildomar Building Department	

3. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	evacuation plans, and construction routes shall utilize non-residential streets to the extent practicable. Finally, such plans shall identify construction worker parking areas and equipment staging areas to minimize impacts to roadway operations.				
TRIBAL CULTURAL RESOURCES					
TRI-1	**Inadvertent Archeological Find.** If during ground disturbance activities, cultural resources are discovered that were not assessed by the archaeological report(s) and/or environmental assessment conducted prior to project approval, the following procedures shall be followed. Cultural resources are defined, as being multiple artifacts in close association with each other, but also include fewer artifacts if the area of the find is determined to be of significance due to its sacred or cultural importance as determined in consultation with the lead agency and Native American Tribe(s) that elected to consult under AB 52 ("Consulting Tribe(s)"). a. All ground disturbance activities within 100 feet of the discovered cultural resources shall be halted until a meeting is convened between the developer, the archaeologist, the tribal representative(s) and the Planning Director to discuss the significance of the find. b. At the meeting, the significance of the discoveries shall be discussed and after consultation with the tribal representative(s), developer, and the archaeologist, a decision shall be made, with the concurrence of the Planning Director, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources. c. Grading or further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation. Work shall be allowed to continue outside of the buffer area and will be monitored by additional Tribal monitors if needed. d. Treatment and avoidance of the newly discovered resources shall be consistent with the Treatment and Monitoring Agreements entered into with the Consulting Tribe(s) and the applicant. This may include avoidance of the cultural resources through project design, in-place preservation of cultural resources located in native soils and/or re-burial	Professional archaeologist	During any ground-disturbing construction activities	City of Wildomar Planning Department and Building and Safety Department	

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	on the Project property so they are not subject to further disturbance in perpetuity as identified in Mitigation Measures TRI-2 and TRI-7. e. If the find is determined to be significant and avoidance of the site has not been achieved, a Phase III data recovery plan (see Mitigation Measure TRI-6) shall be prepared by the project archeologist, in consultation with the Consulting Tribe(s), and shall be submitted to the City for their review and approval prior to implementation of the said plan. Pursuant to Calif. Pub. Res. Code § 21083.2(b) avoidance is the preferred method of preservation for archaeological resources and tribal cultural resources. If the landowner and the Consulting Tribe(s) cannot agree on the significance or the mitigation for the archaeological or tribal cultural resources, these issues will be presented to the Planning Director for decision. The City's Planning Director shall make the determination based on the provisions of the California Environmental Quality Act with respect to archaeological and tribal cultural resources, recommendations of the project archeologist, and shall take into account the cultural and religious principles and practices of the Consulting Tribe(s). Notwithstanding any other rights available under the law, the decision of the City Planning Director shall be appealable to the City Planning Commission and/or City Council.				
TRI-2	**Cultural Resources Disposition.** In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries: a. One or more of the following treatments, in order of preference, shall be employed with the Consulting Tribe(s). Evidence of such shall be provided to the City of Wildomar Planning Department: i. Preservation-In-Place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place where they were found with no development affecting the integrity of the resources.	Professional archaeologist	During grading activities	City of Wildomar Engineering Department and Planning Department	

3. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
ii. Reburial of the resources on the Project property. The measures for reburial shall include, at least, the following: Measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed, with an exception that sacred items, burial goods and Native American human remains are excluded. Any reburial process shall be culturally appropriate. Listing of contents and location of the reburial shall be included in the confidential Phase IV report (see Mitigation Measure TRI-6). The Phase IV Report shall be filed with the City under a confidential cover and not subject to Public Records Request.				
iii. If preservation in place or reburial is not feasible then the resources shall be curated in a culturally appropriate manner at a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees by the Applicant necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the landowner to the City. There shall be no destructive or invasive testing on sacred items, burial goods, and Native American				

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	human remains, as defined by the cultural and religious practices of the Most Likely Descendant. Results concerning finds of any inadvertent discoveries shall be included in the Phase IV monitoring report.				
TRI-3	**Archaeologist Retained.** Prior to issuance of a grading permit the project applicant shall retain a Riverside County qualified Registered Professional Archaeologist (RPA), to monitor all ground disturbing activities in an effort to identify any unknown archaeological resources. The Registered Professional Archaeologist and the Tribal monitor(s) required by Mitigation Measures TRI-4 and TRI-5 shall manage and oversee monitoring for all initial ground disturbing activities and excavation of each portion of the project site including clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, structure demolition and etc. The Registered Professional Archaeologist and the Tribal monitor(s), shall independently have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources in coordination with any required special interest or tribal monitors. The developer/permit holder shall submit a fully executed copy of the contract to the Planning Department to ensure compliance with this condition of approval. Upon verification, the Planning Department shall clear this condition. In addition, the Registered Professional Archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, shall develop a Cultural Resources Management Plan (CRMP) in consultation pursuant to the definition in AB 52 to address the details, timing and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB 52 tribal consultation process for the Project, has not opted out of the AB 52 consultation process, and has completed AB 52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB52. Details in the Plan shall include: a. Project grading and development scheduling; b. The Project archaeologist and the Consulting Tribes(s) shall attend the pre-grading meeting with the City, the construction manager and any contractors and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The Training will include a	Qualified archaeologist, tribal cultural monitor(s), and developer/permit holder	Prior to issuance of grading permit	City of Wildomar Engineering Department and Planning Department	

3. Mitigation Monitoring Requirements

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
	brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the Project following the initial Training must take the Cultural Sensitivity Training prior to beginning work and the Project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis; c. The protocols and stipulations that the contractor, City, Consulting Tribe(s) and Project archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.				
TRI-4	**Native American Monitoring (Pechanga).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Pechanga Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land divider/permit holder for the monitoring of the project to the Planning Department and to the Engineering Department. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the Project Archaeologist.	Tribal cultural monitor(s)	During ground-disturbing activities	City of Wildomar Engineering Department and Planning Department	

Table 3-1 Mitigation Monitoring Requirements

	Mitigation Measure	Responsibility for Implementation	Timing	Responsibility for Monitoring	Monitor (Signature Required) (Date of Compliance)
TRI-5	**Native American Monitoring (Soboba).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Soboba Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land divider/permit holder for the monitoring of the project to the Planning Department and to the Engineering Department. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the Project Archaeologist.	Tribal cultural monitor(s)	During ground-disturbing activities	City of Wildomar Engineering Department and Planning Department	
TRI-6	**Archeology Report - Phase III and IV.** Prior to final inspection, the developer/permit holder shall prompt the Project Archeologist to submit two (2) copies of the Phase III Data Recovery report (if required for the Project) and the Phase IV Cultural Resources Monitoring Report. The Phase IV report shall include evidence of the required cultural/historical sensitivity training for the construction staff held during the pre-grade meeting. The Planning Department shall review the reports to determine adequate mitigation compliance. Provided the reports are adequate, the Community Development Department shall clear this condition. Once the report(s) are determined to be adequate, two (2) copies shall be submitted to the Eastern Information Center (EIC) at the University of California Riverside (UCR) and one (1) copy shall be submitted to the Consulting Tribe(s) Cultural Resources Department(s).	Developer/permit holder and qualified archaeologist	Prior to final inspection	City of Wildomar Engineering Department and Planning Department	
TRI-7	**Non-Disclosure of Reburial Locations**. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or associated grave goods shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, pursuant to the specific exemption set forth in California Government Code 6254 (r)., parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code 6254 (r).	Professional archaeologist	During any ground-disturbing construction activities	City of Wildomar Engineering Department and Planning Department	
WILDFIRE					
See Mitigation Measures HAZ-3 and HAZ-4.					

4. Mitigation Monitoring Reports

Mitigation monitoring reports are required to document compliance with the Mitigation Monitoring Program and to resolve disputes. Specific reports include:

- Field Check Report
- Implementation Compliance Report
- Dispute/Enforcement Report

4.1 FIELD CHECK REPORT

Field check reports are required to record in-field compliance and conditions.

4.2 IMPLEMENTATION COMPLIANCE REPORT

The Implementation Compliance Report (ICR) is prepared to document the implementation of mitigation measures on a phased basis, based on the information in Table 3-1. The report summarizes implementation compliance, including mitigation measures, date completed, and monitor's signature.

4.3 DISPUTE/ENFORCEMENT REPORT

The Dispute/Enforcement Report (DER) is prepared to document the outcome of the Project Manager or City Manager and becomes a portion of the ICR.

4. Mitigation Monitoring Reports

This page intentionally left blank.

5. Community Involvement

Monitoring reports are public documents and are available for review by the general public. Discrepancies in monitoring reports can be taken to the Project Manager or Planning Director by the general public.

5. Community Involvement

This page intentionally left blank.

6. Report Preparation

6.1 LIST OF PREPARERS

City of Wildomar

Matthew C. Bassi, Planning Director

Erica L. Vega, Assistant City Attorney

PlaceWorks

Mark Teague, AICP, Principal

Jasmine A. Osman, Associate I

Lexie Zimny, Planner

6. Report Preparation

This page intentionally left blank

ATTACHMENT B

PC Resolution No. 2022-27

TPM No. 38333

PC RESOLUTION NO. 2022-27

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING TENTATIVE PARCEL MAP NO. 38333 TO SUBDIVIDE A 9.05-ACRE SITE INTO FIVE (5) PARCELS TO ACCOMMODATE THE DEVELOPMENT OF THE WILDOMAR CROSSROADS MIXED-USE PROJECT LOCATED AT THE NORTHWEST CORNER OF WILDOMAR TRAIL AND CLINTON KEITH ROAD (APN: 376-410-015, -016, -017, & -021)

WHEREAS, the Planning Department has received an application for Tentative Parcel Map No. 38333 (PA No. 21-0145) to subdivide a 9.05-acre site into five (5) parcels to develop the Wildomar Crossroads mixed-use project from:

Project Applicant:	Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc.
Project Location:	Northwest corner of Wildomar Trail and Clinton Keith Road
APN:	APN: 376-410-015, -016, -017, & -021
Project Area:	9.05+/- acres

WHEREAS, in accordance with the California Government Code Section 66452 – 66452.22 (Subdivision Map Act), the Wildomar Subdivision Ordinance (Title 16), and the Wildomar Zoning Ordinance (Title 17), the Planning Commission has the authority to review Tentative Parcel Map No. 38333 for the Wildomar Crossroads Mixed-Use project; and

WHEREAS, in accordance with Government Code Section 66452.3, the City has provided the applicant with a copy of the Planning Department staff report and resolutions for Tentative Parcel Map No. 38333 containing staff's recommendation to the Planning Commission at least three (3) days prior to the October 19, 2022 Planning Commission meeting; and

WHEREAS, the proposed Wildomar Crossroads mixed-use project is considered a "Project" as defined by the California Environmental Quality Act, Public Resources Code §21000 et seq. ("CEQA"); and

WHEREAS, the Planning Director determined that there was substantial evidence that the proposed Wildomar Crossroads project may have one or more significant effects on the environment and that preparation of a Mitigated Negative Declaration was therefore warranted under Section 15070 of the CEQA Guidelines; and

WHEREAS, in accordance with Section 16.12.140 of the Wildomar Municipal Code, the Planning Department on October 4, 2022 gave public notice to all property owners within a 600-foot radius of the project boundary notifying said property owners of the October 19, 2022 Planning Commission meeting at which time the Planning

Commission would consider Tentative Parcel Map No. 38333 for the Wildomar Crossroads Mixed-Use project; and

WHEREAS, In accordance with Ordinance No. 135, the Planning Department on October 7, 2022 posted two (2) public hearing notice "sign boards" on Wildomar Trail and Clinton Keith Road notifying the general public of the October 19, 2022 Planning Commission meeting at which time the Planning Commission would consider Tentative Parcel Map No. 38333 for the Wildomar Crossroads Mixed-Use project; and

WHEREAS, in accordance with Section 16.12.140 of the Wildomar Municipal Code, the Planning Department on October 7, 2022 published a legal notice in the "Press Enterprise", a local newspaper of general circulation, notifying the general public of the of the October 19, 2022 Planning Commission meeting at which time the Planning Commission would consider Tentative Parcel Map No. 38333 for the Wildomar Crossroads Mixed-Use project; and

WHEREAS, in accordance with Section 16.12.140 of the Wildomar Municipal Code, the Planning Commission conducted the duly noticed public hearing on October 19, 2022, at which time interested persons had an opportunity to testify in support of, or opposition to, the proposed Tentative Parcel Map No. 38333 (PA No. 21-0145) for the Wildomar Crossroads project, and at which time the Planning Commission received public testimony concerning the proposed Tentative Parcel Map No. 38333.

NOW, THEREFORE, the Planning Commission of the City of Wildomar does hereby resolve, determine and order as follows:

SECTION 1. CEQA FINDINGS:

The approval of Tentative Parcel Map No. 38333 (PA 21-0145) is in compliance with requirements of the California Environmental Quality Act ("CEQA"), in that on October 19, 2022, at a duly noticed public hearing, the Planning Commission adopted a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program reflecting its independent judgment and analysis and documenting the environmental impacts and mitigation measures related to the proposed Tentative Parcel Map No. 38333 (PA No. 21-0145) for the Wildomar Crossroads Mixed-Use project. The documents comprising the City's environmental review for the project are on file and available for public review at Wildomar City Hall, 23873 Clinton Keith Road, Suite 201, Wildomar, CA 92595.

SECTION 2. MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP).

The Planning Commission finds that the Wildomar Crossroads Mixed-Use project is consistent with the MSHCP, and the project is not located in any MSHCP criteria cell area, and required mitigation is provided through payment of the MSHCP Mitigation Fee.

SECTION 3. TENTATIVE PARCEL MAP FINDINGS.

In accordance with Wildomar Municipal Code Title 16 and Title 17, and Government Code § 66473.1, § 66473.5 and § 66474, the Planning Commission, in light of the whole record before it, including but not limited to the Planning Department's staff report and all

documents incorporated by reference therein, the City's General Plan, Subdivision Ordinance, Zoning Ordinance, standards for public streets and facilities, and any other evidence within the record or provided at the public hearing of this matter, hereby finds and determines as follows:

A. The proposed parcel map is consistent with the City's General Plan and any applicable specific plan as specified in Government Code Section 65451.

Evidence: The proposed Tentative Parcel Map No. 38333 is consistent with the City's General Plan in that the proposed subdivision of 9.05 acres into five (5) parcels to accommodate the Wildomar Crossroads mixed-use project is consistent with the existing land use designation of Mixed Use Planning Area (MUPA). The MUPA land use designation is intended to provide for mixed-use projects with a variety of residential, commercial and retail development. The Wildomar Crossroads project consists of 34,450 square feet of commercial retail uses and a 150-unit apartment community (for-sale).

Further, the project site has the "Mixed-Use Overlay" (MU) zone that requires multi-family development in a mixed-use format with densities at least 30 units/acre. Given the 150-unit multi-family complex on the 4.5 +/- acre site, the projects' density is 33.3 units/acre and consistent with the "Mixed-Use Overlay" requirements. The particular mix of land uses consisting of residential, a Sprouts grocery store, multi-tenant retail building with restaurants will provide a variety of jobs, shopping opportunities, sales tax and property tax revenue and living opportunities.

With the efforts of Staff and Applicant regarding the design and layout of the proposed site plan, the project results in a walkable environment for residents and customers as both site areas will have very similar grades and easy pedestrian access between the properties. Lastly, there is no specific plan governing this subdivision, but the proposed lot sizes are consistent with the C-P-S zone development standards. Therefore, the proposed tentative parcel map meets this finding.

Lastly, the proposed mixed-use project also promotes the following land use and housing policies of the General Plan:

LU 2.1 The proposed project will accommodate a land use development that is in accordance with patterns and distribution of land uses that are depicted on the General Plan Land Use map proposed for the subject site.

LU 4.1 The proposed project will accommodate a land use development proposal that is located and designed to visually enhance and not degrade the character of the surrounding area.

LU 6.1 The proposed project will be developed in accordance with the proposed General Plan land use designation that ensures compatibility and minimizes impacts.

LU 22.1 The proposed project will accommodate the development of single family detached dwellings in an area that is appropriately designated by the General Plan.

LU 22.4 The proposed project will provide a specific housing type, style and density that is accessible to and, meets the needs, of a range of lifestyles, physical abilities and income levels.

LU 23.6 The proposed project will have proper mitigation measures to protect the neighboring residential areas from noise, light, fumes, odors, vehicular traffic, parking and operational hazards.

LU 22.10 The proposed project is designed to consider the surrounding areas to visually enhance, and not degrade, the appearance of adjacent residential structures.

LU 23.7 The proposed project will be served by water and sewer along provided by EVMWD to meet the project demands.

LU 24.1 The proposed project will accommodate the development of a new commercial retail, residential, restaurant and grocery store uses that will provide jobs and sales tax revenues.

H-1.1 The proposed multi-family apartment site will help ensure a sufficient supply of housing needs for people who can't afford to buy a home, as well as, help meet the City's Regional Housing Needs Allocation (RHNA) numbers required in the Housing Element.

H-6.1 The proposed single project will utilize energy conservation measures in that each enclosed garage space is conditioned to have an EV charging outlet for electric vehicles and will be designed to meet Cal-Green Building code standards.

B. The design or improvement of the proposed subdivision is consistent with the City's General Plan and any applicable specific plan.

Evidence: The proposed five (5) lot subdivision to accommodate the Wildomar Crossroads mixed-use project has been designed to meet City design and improvement standards applicable to residential, commercial, retail and restaurant development. Wildomar Trail will be dedicated and improved per the Circulation Element and Public Works road standards, including full public improvements such as curb, gutter, sidewalks, etc. These improvements will ensure safe and efficient pedestrian and vehicular circulation, including emergency vehicle access on-site and off-site. Further, all streets, utilities, and drainage facilities have been designed and are required to be constructed in conformance with City standards. There is no specific plan governing this project. Therefore, the proposed tentative parcel map meets this finding.

C. The site is physically suitable for the type and proposed density of development.

Evidence: The project site encompasses approximately 9.05 acres that will be subdivided into five (5) lots to accommodate the mixed use project and is suitable for the type and proposed density of development per the General Plan and Zoning requirements. Further, the site is adequate in size to accommodate the sizes of the commercial, retail, restaurant and residential uses including all required parking and circulation facilities. As the MUPA land use designation allows for mixed-use projects, the overall site design is physically capable of accommodating the total number of buildings, lots and uses. Since the proposed tentative parcel map meets and exceeds the C-P-S zone development standards in terms of lot sizes and lot widths, the project is consistent with the Subdivision and Zoning Ordinances. Given these facts, the proposed Tentative Parcel Map No. 38333 meets this finding.

D. The design of the subdivision or proposed improvements are not likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.

Evidence: The City has prepared a Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program (MMRP) for the proposed mixed-use project. The MND was circulated for the required 30-day public review period that commenced on August 17, 2022 and concluded on September 15, 2022 in accordance with CEQA law. The MND analyzed in detail the environmental issues required under CEQA, including but not limited to, fish and wildlife and their respective habitats. The Applicant prepared and submitted a number of specific technical studies to support the analysis of environmental impacts, including but not limited to, Biological Resources Assessment Report, Cultural Resources Report and MSHCP Compliance Report. These studies concluded that the design of the proposed subdivision and improvements conditioned will not cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat. Proper mitigation measures have been proposed as outlined in the MMRP and the conditions of approval matrix. Given these facts, the proposed Tentative Parcel Map No. 38333 meets this finding.

E. The design of the subdivision or type of improvements is not likely to cause serious public health problems.

Evidence: The design of the subdivision is in conformance with the City's General Plan, Zoning Code and Subdivision Ordinance. The design and construction of all improvements to accommodate the mixed use project have been conditioned in accordance with all applicable City of Wildomar ordinances, codes, and standards including, but not limited to, the California Uniform Building Code, the City's Subdivision and Zoning Ordinances relating to stormwater runoff management and water quality. City ordinances, codes, and standards are intended to protect the health, safety and welfare of the general public, including residents and visitors to

the project. Given these facts, the proposed Tentative Parcel Map No. 38333 meets this finding.

F. The design of the subdivision or the type of improvements will not conflict with easements, acquired by the public at large, for access through or use of property within the proposed subdivision.

Evidence: No easements of record or easements established by judgment of a court of competent jurisdiction for public access across the site have been disclosed in a search of the title records for the site and the City does not otherwise have any constructive or actual knowledge of any such easements.

SECTION 4. PLANNING COMMISSION ACTION

The Planning Commission hereby adopts PC Resolution No. 2022-27 approving Tentative Parcel Map No. 38333 (PA No. 21-0145), subject to conditions, as provided herein and attached hereto to this Resolution as Exhibit 1.

PASSED, APPROVED AND ADOPTED this 19th day of October, 2022 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAINED:

_____
Kim Strong
Planning Commission Vice-Chair

ATTEST:

_____
Matthew C. Bassi
Planning Director/Minutes Secretary

APPROVED AS TO FORM:

_____
Stephanie Gutierrez
Assistant City Attorney

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
PLANNING DEPARTMENT CONDITIONS			
General Requirements / Standard Conditions			
1. In compliance with Section 15094 of the CEQA Guidelines, the Planning Department shall file a Notice of Determination (NOD) with the Riverside County Clerk within five (5) working days after TPM No. 38333 is approved by the Planning Commission. The NOD notice shall include payment of the required California Department of Fish and Wildlife (Fish and Game Code Section 711.4.d.3) fee, and Riverside County Clerk administrative fee. Total fee amount shall be **$2,498.00** and shall be made payable to the "City of Wildomar" and submitted to the Planning Department at least 7 days prior to the October 19, 2022 Planning Commission (10/12/22). Failure to pay the required fee will result in the project being deemed null and void (California Fish and Game Code Section 711.4(c)).	October 26, 2022	Planning Department	
2. The Applicant shall review, and sign below verifying the "Acceptance of the Conditions of Approval" for Tentative Parcel Map No. 38333 and submit the signed page to the Wildomar Planning Department within one (1) week of Planning Commission approval. Applicant Signature Date Applicant Signature Date	October 26, 2022	Planning Department	

Planning Commission Date: October 19, 2022	Parcel Map 38333 Expiration Date: October 19, 2025		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
3. The Applicant shall indemnify, protect, defend, and hold harmless, the City of Wildomar, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, from any and all claims, demands, law suits, writs of mandamus, and other actions and proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolutions procedures (including, but not limited to arbitrations, mediations, and other such procedures), (collectively "Actions"), brought against the City, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, the any action of, or any permit or approval issued by, the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City), for or concerning the Project, whether such Actions are brought under the California Environmental Quality Act, the Planning and Zoning Law, the Subdivision Map Act, Code of Civil Procedure Chapter 1085 or 1094.5, the California Public Records Act, or any other state, federal, or local statute, law, ordinance, rule, regulation, or any decision of a court of competent jurisdiction. City shall promptly notify the Applicant of any Action brought and request that Applicant defend the City. It is expressly agreed that Applicant may select legal counsel providing the Applicant's defense and the City shall have the right to approve separate legal counsel providing the City's defense. The Applicant shall reimburse City for any attorneys' fees, costs and expenses directly and necessarily incurred by the City in the course of the defense. Applicant agrees that City will forward monthly invoices to Applicant for attorneys' fees, costs and expenses it has incurred related to its defense of any Action and	Ongoing	Planning Department	

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
	Applicant agrees to timely payment within thirty (30) days of receipt of the invoice. Within fourteen (14) days of an Action being filed, Applicant agrees to post adequate security or a cash deposit with City in an amount to cover the City's estimated attorneys' fees, costs and expenses incurred by City in the course of the defense in order to ensure timely payment of the City's invoices. The amount of the security or cash deposit shall be determined by the City. City shall cooperate with Applicant in the defense of any Action.			
4.	Approval of Tentative Parcel Map No. 38333 shall expire on October 19, 2025 if the final map has not been approved by the City Council and recorded with the Riverside County Clerk. The Applicant may apply in writing for an Extension of Time (EOT) for review and approval by the Planning Commission in accordance with Section 16.12.240 of the Wildomar Municipal Code. Said extension of time application and required fee must be submitted to the Planning Department prior to the expiration date.	October 19, 2025	Planning Department	
5.	In accordance with Section 66020.d.1 of the Government Code, the Applicant has 90 days from project approval to file a protest of the imposition of fees, dedications, reservations, or other exactions being imposed on this project. Notice is hereby given to the Applicant that the 90-day appeal hereby begins with approval of this project.	January 19, 2023	Planning Department	
6.	Within 60 days of approval of Tentative Parcel Map No. 38333 (PA 21-0145), the Applicant shall pay any outstanding deposit account balances. Failure to pay the outstanding balance by the due date may result in delays in the submittal of final map, grading plans, improvement plans and/or building/construction plans.	December 19, 2022	Planning Department	

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
7. Applicant hereby understands and agrees that failure to comply with all Conditions of Approval may result in the Planning Commission taking action resulting in a modification to the Conditions of Approval and/or suspension or revocation of the plot plan and/or conditional use permit.	On-Going	Planning Department	
8. The project shall be subdivided in accordance with the Tentative Parcel Map No. 38333 approved by the Planning Commission on October 19, 2022. The Applicant may request a minor change/revision to the approved Parcel Map, if needed, in accordance with Sections 16.12.210 and/or 16.12.220 of the Wildomar Municipal Code.	On-Going	Planning & Engineering Departments	
Initial Study/Mitigated Negative Declaration (IS/MND) Mitigation Measures:			
Air Quality Resources			
9. **AQ-1** During the site preparation phase, construction equipment greater than 150 horsepower (hp), the Construction Contractor shall ensure that off-road diesel construction equipment that complies with Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.	During site preparation	Planning Department & Public Works Department	
10. **AQ-2** All actively graded (disturbed) areas within the project site during site preparation activities shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12 percent in maintained for actively graded areas. Moisture content can be verified with use of a moisture probe by the grading contractor.	During site preparation	Planning Department & Public Works Department	

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
Biological Resources			
11. **BIO-1** The Project applicant/developer shall retain a qualified biologist to conduct a 30-day pre- construction survey for burrowing owls (BUOW). The results of the survey shall be submitted to the City of Wildomar prior to obtaining a grading permit. If BUOW are not detected during the pre-construction survey, no further mitigation is required. If BUOW are detected during the pre-construction survey, the project applicant shall relocate burrowing owls out of harm's way, in consultation with the CDFW. Notification to the CDFW shall occur if burrowing owls are found to be present onsite and the development of a conservation strategy in cooperation with the U/S/ Fish and Service, the CDFW, and the Western Riverside County Regional Conservation Authority (RCA) shall be conducted. The project applicant/developer and a qualified consulting biologist will be required to prepare and submit for approval a BUOW relocation program. The report shall be submitted to the applicant and the City of Wildomar concurrently.	Within 30 days prior to construction, Prior to issuance of grading permits	Planning Department & Public Works Department	
12. **BIO-2** Prior to vegetation clearance, the Project applicant/developer shall retain a qualified biologist to conduct a pre-disturbance nesting bird survey in accordance with the following: • The survey shall be conducted no more than three (3) days prior to the initiation of clearance/construction work; • If pre-disturbance surveys indicate that bird nests are not present or are inactive, or if potential habitat is unoccupied, no further mitigation is required; • If active nests of birds are found during the surveys, a species-specific no-disturbance buffer zone shall be established by a qualified biologist	Within three (3) days prior to the initiation of clearance/construction work	Planning Department & Public Works Department	

	around active nests until a qualified biologist determines that all young have fledged (i.e., no longer reliant upon the nest).			
Cultural Resources				
13.	**CUL-1** Human Remains. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98	During any ground-disturbing construction activities	Planning Department & Public Works Department	
Geology and Soils				
14.	**GEO-1** The project applicant/developer shall incorporate the recommendations of the Geotechnical Report prepared Leighton and Associates, Inc. (**Appendix 8)** into project plans related to the proposed project. The project's building plans shall demonstrate that they incorporate all applicable recommendations of the Geotechnical Report and comply with all applicable requirements of the latest adopted version of the California Building Code.	During building plan check, prior to any ground-disturbing construction activities	Planning Department and Building and Safety Department	

15.	**GEO-2** A paleontological grading observation schedule by a Certified Paleontologist shall be maintained when grading in bedrock units to further evaluate the fossil resources of the site. Salvage operations shall be initiated by the Certified Paleontologist and coordinated with the developer if other significant concentrations of fossils, as determined by the Certified Paleontologist, are encountered. Any paleontological resources shall be provided for curation at a local curation facility, or any other local museum or repository willing and able to accept and house the resource to preserve for future scientific study.	During ground-disturbing construction activities	Planning Department & Public Works Department	
Hazards and Hazardous Materials				
16.	**HAZ-1** Prior to the development of the site, representative sampling of the soil stockpiles shall be conducted. Soil samples shall be analyzed by a laboratory licensed with the Environmental Laboratory Accreditation Program [ELAP] for total petroleum hydrocarbon chains by EPA Method 8015M, Title 22 Metals by EPA Method 6010B/7471A, organochlorine pesticides by EPA Method 8081A, volatile organic compounds by EPA Method 8260B/5035 and polychlorinated biphenyls by EPA Method 8082. During stockpile testing, a soil sample shall be collected from the area where an orchard may have been located and tested for organochlorine pesticides to assess for residual pesticides. If the results of the soil testing show chemical levels are below EPA Region 9 or DTSC screening levels for residential land use, grading or excavation may proceed accordingly. Remediation and/or removal of contaminated soils shall be made prior to development, if chemical levels are above screening levels. Remediation shall be made in	Prior to site development	Wildomar Building Department, Riverside County Health Department, SCAQMD, California Department of Toxic Substances Control, U.S. Environmental Protection Agency	

	coordination with the local health department, SCAQMD, the California Department of Toxic Substances Control, the U. S. Environmental Protection Agency or other regulatory agencies and in compliance with established residential screening levels.			
17.	**HAZ-2** After grading is completed, but before construction begins, the project Applicant/developer shall install soil gas probes with a 100-foot grid spacing in the footprints of the proposed structures, at depths of 5 feet below ground surface and 15 feet below ground surface at each location. Methane shall be tested from the probes with a properly calibrated hand-held device with a detection limit of no greater than 500 ppmv, or via a laboratory licensed with ELAP by ASTM Method 1946D, or a combination of the two. In addition, calibrated pressure gauges such as Magnehelic gauges or equivalent with a range of 0-10 inches of water pressure to a range of 0-100 inches of water pressure shall be used on each probe. If methane levels in probes are below 10 percent of the Lower Explosive Limit (10 percent LEL or 5,000 ppmv), the project could proceed without further action. For areas of the site that have methane concentrations at or exceeding 10 percent LEL or have pressures exceeding 3 inches of water, further testing shall be implemented to determine if a methane mitigation system is necessary. If additional weekly testing shows that methane concentrations consistently exceed 10 percent LEL or have pressures exceeding 3 inches of water over a period of 30 days and a plot of the resulting data does not show a downward trend in concentrations or pressures, then a methane mitigation system shall be incorporated into the building plans for the structures where the elevated concentrations and/or	Prior to site development	Wildomar Building Department, Riverside County Health Department, SCAQMD, California Department of Toxic Substances Control, U.S. Environmental Protection Agency	

	pressures were observed. If there is a downward trend but the concentrations are still above 10 percent LEL or have pressures above 3 inches of water, then additional testing past 30 days may be requested to determine if concentrations and pressures subside below the action levels.			
18.	**HAZ-3** Prior to the issuance of building permits, the project applicant/developer shall demonstrate, to the satisfaction of the City Building Official and the Riverside County Fire Chief, compliance with the 2019 California Building Code (or the most recent edition) (Part 2 of Title 24 of the California Code of Regulations) and the 2019 California Fire Code (or the most recent edition) (Part 9 of Title 24 of the California Code of Regulations), including those regulations pertaining to materials and construction methods intended to mitigate wildfire exposure as described in the 2019 California Building Code and California Residential Code (or most recent edition); specifically California Building Code Chapter 7A; California Residential Code Section R327; California Residential Code Section R337; California Referenced Standards Code Chapter 12-7A; and California Fire Code Chapter 49.	Prior to issuance of building permits	Building and Safety Department and Riverside County Fire Department	
19.	**HAZ-4** Prior to the issuance of a certificate of occupancy, the applicant shall demonstrate, to the satisfaction of the City Building Official and the County Fire Chief, compliance with the vegetation management requirements prescribed in California Fire Code Section 4906 and California Government Code Section 51182.	Prior to issuance of certificate of occupancy	Building and Safety Department and Riverside County Fire Department	

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
Noise Measures			
20. **NOI-1** All noise producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers and air-inlet silencers, where appropriate, in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.	Prior to construction	Planning Department and Building and Safety Department	
Transportation			
21. **TRA-1** During final design, stage construction and detour plans will be prepared to minimize disruption to the traveling public. Such plans shall be prepared in consultation with affected local jurisdictions prior to construction. Adequate access shall be provided at all times to and from side streets serving adjacent land uses. To further ensure public safety, proper detours and warning signs shall be established. The stage construction and detour plans shall be designed to not interfere with any emergency response or evacuation plans, and construction routes shall utilize non-residential streets to the extent practicable. Finally, such plans shall identify construction worker parking areas and equipment staging areas to minimize impacts to roadway operations.	During final design	Planning Department & Public Works Department	
Tribal and Cultural Resources			
22. **TRI-1** Inadvertent Archeological Find. If during ground disturbance activities, cultural resources are discovered that were not assessed by the archaeological report(s) and/or environmental assessment conducted prior to project approval, the following procedures shall be	During any ground-disturbing or construction activities	Planning Department & Public Works Department	

	followed. Cultural resources are defined, as being multiple artifacts in close association with each other, but also include fewer artifacts if the area of the find is determined to be of significance due to its sacred or cultural importance as determined in consultation with the lead agency and Native American Tribe(s) that elected to consult under AB 52 ("Consulting Tribe(s)"). a. All ground disturbance activities within 100 feet of the discovered cultural resources shall be halted until a meeting is convened between the developer, the archaeologist, the tribal representative(s) and the Planning Director to discuss the significance of the find. b. At the meeting, the significance of the discoveries shall be discussed and after consultation with the tribal representative(s), developer, and the archaeologist, a decision shall be made, with the concurrence of the Planning Director, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources. c. Grading or further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation. Work shall be allowed to continue outside of the buffer area and will be monitored by additional Tribal monitors if needed. d. Treatment and avoidance of the newly discovered resources shall be consistent with the Treatment and Monitoring Agreements entered into with the Consulting Tribe(s) and the applicant. This may include avoidance of the cultural resources through project design, in-place preservation of cultural resources located in native soils and/or re-burial on the Project property so they are not subject to further disturbance in perpetuity as identified in Mitigation Measures TRI-2 and TRI-7.			

Planning Commission Date: October 19, 2022	Parcel Map 38333 Expiration Date: October 19, 2025		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
	e. If the find is determined to be significant and avoidance of the site has not been achieved, a Phase III data recovery plan (see Mitigation Measure TRI-6) shall be prepared by the project archeologist, in consultation with the Consulting Tribe(s), and shall be submitted to the City for their review and approval prior to implementation of the said plan. f. Pursuant to Calif. Pub. Res. Code § 21083.2(b) avoidance is the preferred method of preservation for archaeological resources and tribal cultural resources. If the landowner and the Consulting Tribe(s) cannot agree on the significance or the mitigation for the archaeological or tribal cultural resources, these issues will be presented to the Planning Director for decision. The City's Planning Director shall make the determination based on the provisions of the California Environmental Quality Act with respect to archaeological and tribal cultural resources, recommendations of the project archeologist, and shall take into account the cultural and religious principles and practices of the Consulting Tribe(s). Notwithstanding any other rights available under the law, the decision of the City Planning Director shall be appealable to the City Planning Commission and/or City Council.			
23.	**TRI-2** Cultural Resources Disposition. In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries: a. One or more of the following treatments, in order of preference, shall be employed with the Consulting Tribe(s). Evidence of such shall be provided to the City of Wildomar Planning Department:	During grading activities	Planning Department & Public Works Department	

	i. Preservation-In-Place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place where they were found with no development affecting the integrity of the resources. ii. Reburial of the resources on the Project property. The measures for reburial shall include, at least, the following: Measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed, with an exception that sacred items, burial goods and Native American human remains are excluded. Any reburial process shall be culturally appropriate. Listing of contents and location of the reburial shall be included in the confidential Phase IV report (see Mitigation Measure TRI- 6). The Phase IV Report shall be filed with the City under a confidential cover and not subject to Public Records Request. iii. If preservation in place or reburial is not feasible then the resources shall be curated in a culturally appropriate manner at a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees by the Applicant necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the landowner to the City. There shall be no destructive or			

	invasive testing on sacred items, burial goods, and Native American human remains, as defined by the cultural and religious practices of the Most Likely Descendant. Results concerning finds of any inadvertent discoveries shall be included in the Phase IV monitoring report.			
24.	**TRI-3** Archaeologist Retained. Prior to issuance of a grading permit the project applicant shall retain a Riverside County qualified Registered Professional Archaeologist (RPA), to monitor all ground disturbing activities in an effort to identify any unknown archaeological resources. The Registered Professional Archaeologist and the Tribal monitor(s) required by Mitigation Measures TRI-4 and TRI-5 shall manage and oversee monitoring for all initial ground disturbing activities and excavation of each portion of the project site including clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, structure demolition and etc. The Registered Professional Archaeologist and the Tribal monitor(s), shall independently have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources in coordination with any required special interest or tribal monitors. The developer/permit holder shall submit a fully executed copy of the contract to the Planning Department to ensure compliance with this condition of approval. Upon verification, the Planning Department shall clear this condition. In addition, the Registered Professional Archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, shall develop a Cultural Resources Management Plan (CRMP) in consultation	Prior to issuance of grading permit	Planning Department & Public Works Department	

	pursuant to the definition in AB 52 to address the details, timing and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB 52 tribal consultation process for the Project, has not opted out of the AB 52 consultation process, and has completed AB 52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB52. Details in the Plan shall include: a. Project grading and development scheduling; b. The Project archaeologist and the Consulting Tribes(s) shall attend the pre- grading meeting with the City, the construction manager and any contractors and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The Training will include a brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the Project following the initial Training must take the Cultural Sensitivity Training prior to beginning work and the Project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis; c. The protocols and stipulations that the contractor, City, Consulting Tribe(s) and Project archaeologist will follow in the event of			

	inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.			
25.	**TRI-4 Native American Monitoring (Pechanga).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Pechanga Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land divider/permit holder for the monitoring of the project to the Planning Department and to the Engineering Department. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the Project Archaeologist.	During ground-disturbing activities	Planning Department & Public Works Department	
26.	**TRI-5 Native American Monitoring (Soboba).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Soboba Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land divider/permit holder for the monitoring of the project to the Planning Department and to the Engineering Department. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the Project Archaeologist.	During ground-disturbing activities	Planning Department & Public Works Department	

27.	**TRI-6 Archeology Report** – Phase III and IV. Prior to final inspection, the developer/permit holder shall prompt the Project Archeologist to submit two (2) copies of the Phase III Data Recovery report (if required for the Project) and the Phase IV Cultural Resources Monitoring Report. The Phase IV report shall include evidence of the required cultural/historical sensitivity training for the construction staff held during the pre-grade meeting. The Planning Department shall review the reports to determine adequate mitigation compliance. Provided the reports are adequate, the Community Development Department shall clear this condition. Once the report(s) are determined to be adequate, two (2) copies shall be submitted to the Eastern Information Center (EIC) at the University of California Riverside (UCR) and one (1) copy shall be submitted to the Consulting Tribe(s) Cultural Resources Department(s).	Prior to final inspection	Planning Department & Public Works Department	
28.	**TRI-7 Non-Disclosure of Reburial Locations**. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or associated grave goods shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, pursuant to the specific exemption set forth in California Government Code 6254 l., parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code 6254 (r).	During discovery of Native American human remains	Planning Department & Public Works Department	

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
Prior to the Recordation of the Final Map			
29. Prior to recordation of the final map, the Applicant shall submit two (2) copies of the revised/updated Covenants, Conditions, and Restrictions (CC&R's) for the for review and approval by the Planning Director, Public Works Director and City Attorney. The CC&R's shall include liability insurance and methods of maintaining landscaping, parking areas, private roads, exterior of all buildings (if applicable), and all landscaped and open areas including parkways, as well as a provision indicating that the homeowners association may not be terminated or dissolved without the permission of the City. The revised CC&R's shall be in the form and content approved by the Planning Director and City Attorney and shall include such provisions as are required by this approval and as said officials deem necessary to protect the interests of the City and its residents. Said CC&R's shall be recorded concurrently with the final map and a copy of the recorded CC&R's shall be submitted to the Planning and Engineering Departments within 2 weeks of recordation.	Prior to Final Map Recordation	Planning and Engineering Departments	
PUBLIC WORKS/ENGINEERING/BUILDING DEPARTMENT CONDITIONS			
General Requirements / Standard Conditions			
1. The developer shall obtain City approval for any modifications or revisions to the approval of this project in accordance with State law (Gov. Code 65913.4). Deviations not identified on the plans may not be approved by the City, potentially resulting in the need for the project to be redesigned. Amended entitlement approvals may be necessary as a result.	On-going	Engineering	

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
2. The developer shall comply with the State of California Subdivision Map Act and all applicable City ordinances and resolutions.	On-going	Engineering	
3. Prior to recordation or issuance of grading permit, the applicant shall demonstrate to the satisfaction of the City Engineer that the proposed subdivision will not unreasonably interfere with the use of any easement holder of the property.	On-going	Engineering	
4. Written permission shall be obtained from the affected property owners allowing the proposed grading and/or facilities to be installed outside of the project boundaries.	On-going	Engineering	
5. The submitted parcel map shall correctly show all existing easements, traveled ways, and drainage courses. Any omission or misrepresentation of these documents may require said parcel map to be resubmitted for further consideration.	On-going	Engineering	
6. Prior to recordation or issuance of grading permit, the applicant shall demonstrate to the satisfaction of the City Engineer that the proposed subdivision will not unreasonably interfere with the use of any easement holder of the property.	On-going	Engineering	
7. The developer/owner or contractor shall apply for an Encroachment Permit for work performed within the public right of way. Compliance with current environmental regulations applies and additional studies and/or permits may be required to the extent applicable under State law (Gov. Code 65913.4).	On-Going	Public Works	
8. The developer's contractor is required to submit for a haul route permit for the hauling of material to and from the project site. Said permit will include limitations of haul hours, number of loads per day and the	On-Going	Public Works	

	posting of traffic control personnel at all approved entrances/exits onto public roads. Hauled material shall be to/from an environmentally approved site.			
9.	Street design criteria and cross sections shall be per City of Wildomar standards, approved Master Plan/Specific Plan design guidelines and the State of California Department of Transportation Highway Design Manual unless otherwise approved by the City Engineer.	On-going	Engineering	
10.	Prior to the issuance of a grading permit, a Final WQMP, prepared in substantial conformance with the approved Preliminary WQMP, shall be submitted to the Public Works Land Development Section for approval.	On-going	Engineering	
11.	Prior to issuance of the first Certificate of Occupancy, the applicant shall provide proof of notification to the future homeowners and/or occupants of all non-structural BMPs and educational and training requirements for said BMPs as directed in the approved WQMP.	On-going	Engineering	
12.	Prior to issuance of Certificate of Occupancy, the applicant shall ensure all structural post construction BMPs identified in the approved project specific Final WQMP are constructed and operational.	On-going	Engineering	
13.	Prior to approval of improvement plans, the improvement plans shall show all the streets to be improved to half width plus twelve (12) additional feet, unless otherwise approved by the City Engineer. At the discretion of the applicant, the existing pavement maybe cored to confirm adequate section and R values during the design process and any findings shall be incorporated into the project design. Therefore, improvements may include full pavement reconstruction, grind and overlay, or slurry seal. All striping shall be replaced in kind.	On-going	Engineering	

14.	The Developer shall dedicate, design and construct all improvements in accordance with the City of Wildomar Road Improvement Standards & Specification, Improvement Plan Check Policies and Guidelines, as further conditioned herein and to the satisfaction of the City Engineer. In the absence of a subdivision map, rights-of-way and easements shall be dedicated by separate instrument.	On-going	Engineering	
15.	Should this project lie within any assessment/benefit district, the project proponent shall, prior to acceptance of improvements, make application for and pay for their reapportionment of the assessments or pay the unit fees in the benefit district unless said fees are otherwise deferred or covered under the City's Community Facility District (CFD Services).	On-Going	Engineering	
16.	The developer shall prepare and submit a comprehensive drainage study and plan that includes, but is not limited to: definition with mapping of the existing watersheds; a detailed pre- and post-project hydrologic and hydraulic analysis of the project and project impacts; definition of the local controlling 100-year frequency water levels existing and with project; the proposed method of flow conveyance to mitigate the potential project impacts with adequate supporting calculations; any proposed improvements to mitigate the impacts of increased runoff from the project and any change in runoff; including quality, quantity, volume, and duration in accordance with City of Wildomar's Hydrology Manual, Improvement Standards, and to the satisfaction of the City Engineer. Specifically, the study will: a. Analyze the detention basin drainage area for a project using the Rational Method 100-year storm event for the pre-project and post-project.	Prior to Issuance of a Grading Permit	Engineering	

	b. Analyze 4 hydrographs for the detention basin drainage area for a project using the Unit Hydrograph 100-year storm event for the 1-hour, 3-hour, 6-hour, and 24-hour storm durations for post-project condition. c. Using the Unit Hydrographs determine which duration provides the highest flow rate. Adjust parameters such as lag time, flow line roughness coefficient or other parameters to calibrate Unit Hydrograph model to provide results similar to the Rational Method. Using the calibrated Unit Hydrograph for the detention basin drainage area perform basin routing analysis to demonstrate that the outflow is less than the pre-project Rational Method flow rate.			
17.	Prior to issuance of any grading permit, any environmental Phase I and Phase II applicable findings and recommended actions to remove contamination resulting from previous use of the subject site shall be implemented.	Prior to Issuance of a Grading Permit	Engineering	
18.	The Construction Runoff Management Plan (or Erosion/Sediment Control Plan) shall include enhanced BMPs, for installation of landscaping to minimize the potential runoff of nutrients which is the Priority Water Quality Condition of Concern in the Santa Margarita River Watershed, to the satisfaction of the City Engineer.	Prior to Issuance of a Grading Permit	Engineering	
19.	The developer shall annex into the City's Community Facility District (CFD Services) and pay associated costs for annexation. Should this project lie within any assessment/benefit district that duplicates the services to be covered under CFD Services then the developer shall de-annex from said assessment/benefit district.	Prior to First Building permit issuance	Engineering	

Planning Commission Date: October 19, 2022	**Parcel Map 38333 Expiration Date:** October 19, 2025		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
20. The developer shall annex into CFD Service District 2022-2, or current equivalent Community Facilities District, to offset development related costs for maintenance and services for the applicable development.	Prior to Issuance of a Building Permit	Engineering	
21. Prior to issuance of Building Permit, the developer shall post security guaranteeing the construction of all required public improvements consistent with the approved TIA. Said improvements shall include, but are not limited to the following: 1. All street facilities: 2. Any missing or substandard public improvements on Wildomar Trail and Catt Road, to half street plus 12' along the project frontage. 3. Traffic Mitigation measures as outlined in approved Traffic Impact Analysis dated, August 10, 2022. 4. All ingress and egress shall meet minimum commercial driveway standards. 5. Southernmost site access on Wildomar Trail indicated on the site plan and "DWY 3" indicated on the TIA shall be limited to right in, right out, access only. Site access on Catt Road shall be coordinated with adjacent developments, City of Wildomar Traffic Engineering, and the City Engineer. b) All drainage facilities to serve the proposed, and as outlined in the approved Hydrology Study. c) All required grading, including erosion control. Additional erosion control may be required per the City Engineer	Prior to Issuance of a Building Permit	Engineering	

	d) All required sewer, water and reclaimed water facilities per Elsinore Valley Municipal Water District (EVMWD) standards and specifications, per approved plans. e) All required landscaping and/or park facilities on-site, as well as parkway landscaping per approved streetscape plans and design guidelines. f) All under grounding of overhead utilities, except for cables greater than 32k volts, per Wildomar Municipal Code			
22.	Prior to building permit issuance, the applicant shall commence construction or guarantee the construction of all new or upgraded required public improvements including but not limited to, the potable water line, sewer line, , potable water services, sewer laterals, , double detector check assemblies and reduced pressure principal assemblies within the public right of way and/or easements.	Prior to Issuance of a Building Permit	Engineering	
23.	Clinton Keith Road is currently paved to its ultimate as a Primary Arterial 6-lane (128' ROW), however, the project may submit an in-lieu fee for the portion lying along its project frontage, in coordination with the percentage identified in the approved Traffic Impact Analysis and associated MND. Catt Road plans shall be submitted and approved for construction to its ultimate classification as a Local Road. The plans shall include construction of applicable curb, gutter and sidewalk improvements along its frontage. The ultimate modified design shall be coordinated with the City Engineering Division and subject to the satisfaction of the City Engineer.	Prior to Improvement Plan Approval	Engineering	

Planning Commission Date: October 19, 2022	Parcel Map 38333 Expiration Date: October 19, 2025		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
	Arya Road plans shall be submitted and approved for construction to its ultimate classification as a Local Road, and as identified to support the proposed project per the approved TIA and subject to the satisfaction of the City Engineer. The project shall submit plans to construct Wildomar Trail along its project frontage, at its ultimate half-section width classification as a Collector (74-foot right-of-way) in compliance with applicable City of Wildomar and Caltrans standards. Plans shall be approved subject to the satisfaction of the City Engineer. Wildomar Trail/Clinton Keith Rd: Plans shall be submitted and approved for Construction of improvements as per approved CIP at this intersection. Improvements include the addition of WBT receiving lane at project frontage and the modification of WBR to WBTR. Signal modifications include changing SBL and NBL signal permissive phasing to protected permissive and overlapping SBR. In the event the CIP improvements are constructed before the project is constructed, the project would contribute fair-share to improvements at this intersection, as identified in the approved TIA. Plans shall be coordinated with the CIP and shall be subject to the satisfaction of the City Engineer. Inland Valley Dr/Clinton Keith Rd: Project would calculate and contribute fair-share to the CIP at this intersection which improves the intersection to a 4-lane intersection. Improvements include addition of WBT lane and EBT receiving lane. The fair-share shall be calculated to the satisfaction of the City Engineer.			

	Palomar Rd/Clinton Keith Rd: Project would calculate and contribute a fair-share to intersection improvements as per approved CIP at this intersection. Improvements as per CIP include addition of 2nd EBL, modification of EBR to EBTR. Modification of WBT to WBTR. Modification on NBTR to NBT, addition of NBR and addition of 2nd SBL. The project's fair-share contributions would be limited to the 2nd SBL improvement on Clinton Keith Rd which would include widening the road to shift the SBR further northwest along with any associated improvements or costs necessary to accomplish such improvement consistent with the approved TIA and subject to the satisfaction of the City Engineer. Arya Rd/Clinton Keith Rd: Plans shall be submitted and approved for construction of improvements or provide fair-share contribution as identified in the approved TIA and subject to the satisfaction of the City Engineer. Improvements include northbound striping to provide dedicated NBL and NBTR, dedicated SBL and SBTR. Signal modifications include changing NB-SB permissive phasing to protective permissive phasing along with associated improvements necessary to accomplish the lane configuration, road widening, and signal operation discussed above. These improvements would include widening of Arya Rd to 4 lanes. Wildomar Trail/Project Driveway 4: Plans shall be submitted and approved for construction of improvements as a project design feature to add Two Stage Gap Acceptance for EBL approach from Project Dwy			

	consistent with the striping concept included in the approved TIA and subject to the satisfaction of the City Engineer. Sight distance at each project access point shall be reviewed with respect to standard Caltrans and City of Wildomar sight distance standards at the time of preparation of final grading, landscape, and street improvement plans. On-site traffic signing and striping plan shall be submitted and approved in conjunction with detailed construction plans for the project site subject to the satisfaction of the City Engineer. All public improvement plans shall include adequate transitions beyond the project boundary to 300', at the discretion of the City Engineer. Project applicant shall pay all fair-share contributions and provide plans for approval necessary to implement all improvements as discussed in the approved TIA subject to the satisfaction of the City Engineer.			
24.	Prior to issuance of building permits, the developer shall cause the civil engineer of record and soils engineer of record for the approved grading plans to submit pad certifications and compaction test reports for the subject lots where building permits are requested.	Prior to Issuance of Building Permits	Engineering	

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
Prior to Recordation of the Final Map			
25. All the drainage design criteria shall be per City of Wildomar standards and the Riverside County Flood Control and Water Conservation District standards unless otherwise approved by the Public Works Director.	Prior to Map	Engineering	
26. Prior to map recordation or approval of any improvement plans, the applicant shall submit a detailed hydrology study. Said study shall include the existing, interim, and ultimate proposed hydrologic conditions including key elevations, drainage patterns and proposed locations and sizes of all existing and proposed drainage devices. The hydrology study shall present a full breakdown of all the runoff generated on- and off-site.	Prior to Map	Engineering	
27. Prior to recordation or approval of improvement plans, the improvement plans submitted by the applicant shall include the following: a) All local and/or major arterial highways' vertical and horizontal alignments shall be approved by the Director of the Public Works Department. b) All driveways shall conform to the applicable City of Wildomar standards and shall be shown on the street improvement plans. c) All street intersections shall be at ninety (90) degrees or as approved by the City Engineer. e) Under grounding of existing and proposed utility lines. f) Streetlights. g) All other public improvements shall conform to City of Wildomar standards.	Prior to Map	Engineering	

28.	Prior to recordation or approval of improvement plans, the improvement plans submitted by the applicant shall address the following: a) The project drainage design shall be designed to accept and properly convey all on- and off-site drainage flowing on or through the site. b) The project drainage system design shall protect downstream properties from any damage caused by alteration of drainage patterns such as concentration or diversion of flow. c) All residential lots shall drain toward the street. Lot drainage to the street shall be by side yard swales independent of adjacent lots or by an underground piping system. Concentrated drainage on commercial lots shall be diverted through parkway drains under sidewalks. All non-residential lots shall drain toward an approved water quality or drainage facility. Once onsite drainage has been treated it may continue into an approved public drainage facility or diverted through under-sidewalk parkway drains.	Prior to Map	Engineering	
29.	Prior to recordation, the applicant shall submit for approval all proposed parkway, slope maintenance, and/or landscaping easements to be granted to the Community Facilities District, as specified on the tentative map or Conditions of Approval. Said information shall be submitted to the Public Works Department Land Development Section for approval.	Prior to Map	Engineering	
30.	Prior to final map recordation the applicant shall prepare a disclosure statement indicating that the property is within an Assessment District, Community Facilities District and/or Landscape Maintenance District and will be subject to an annual levy. The disclosure statement is subject to the review and approval of the Public Works Department and shall be recorded concurrently with the final map.	Prior to Map	Engineering	

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
31. Prior to map recordation, issuance of a building permit and/or issuance of a Certificate of Occupancy, the applicant shall pay all development fees, including but not limited to: Development Impact Fees (DIF) per City Municipal Code 3.44, and Transportation Uniform Mitigation Fees (TUMF) per City Municipal Code 3.40. Said fees shall be collected at the rate in effect at the time of fee collection as specified by the current City Council fee resolutions and ordinances.	Prior to Map	Engineering	
32. Prior to map recordation, the applicant shall offer for dedication all required street rights-of-required to support the development. Said dedications shall continue in force until the City accepts or abandons such offers. All dedications shall be free of all encumbrances and approved by the City Engineer.	Prior to Map	Engineering	
33. Prior to issuance of a Certificate of Occupancy, all proposed parkway, slope maintenance, and/or median landscaping specified in the tentative map or in these Conditions of Approval shall be constructed.	Prior to Map	Engineering	
34. The developer shall install any missing streetlight facilities along the project frontage, in accordance with the applicable City of Wildomar Road Improvement Standards & Specification, Improvement Plan Check Policies and Guidelines, City Ordinances and to the satisfaction of the City Engineer.	Prior to Certificate of Occupancy	Building/ Public Works	
35. The developer/applicant shall demonstrate that all applicable development related fees, impact fees, and mitigation fees have been satisfactorily paid.	Prior to Issuance of a Building Permit or Certificate of Occupancy	Building	

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
36. The developer shall comply with the recommendations in Approved TIA. Prior to issuance of building permit, the developer shall guarantee construction of the following public improvements: Catt Road shall be constructed to its ultimate classification as a Local Road. This shall include construction of applicable curb, gutter and sidewalk improvements along its frontage as well as applicable cul-de-sac. The ultimate modified design shall be coordinated with the City Engineering Division and subject to the satisfaction of the City Engineer. Arya Road shall be constructed to its ultimate classification as a Local Road, and as identified to support the proposed project per the approved TIA and subject to the satisfaction of the City Engineer. The project shall construct Wildomar Trail along its project frontage, at its ultimate half-section width classification as a Collector (74-foot right-of-way) in compliance with applicable City of Wildomar and Caltrans standards subject to the satisfaction of the City Engineer. Wildomar Trl/Clinton Keith Rd: The project shall construct improvements as per approved CIP at this intersection. Improvements include the addition of WBT receiving lane at project frontage and the modification of WBR to WBTR. Signal modifications include changing SBL and NBL signal permissive phasing to protected permissive and overlapping SBR. In the event the CIP improvements are constructed before the project is constructed, the project would contribute fair-share to improvements at this intersection, as identified in the approved TIA.	Prior to Issuance of Certificate of Occupancy	Engineering	

Planning Commission Date: October 19, 2022	**Parcel Map 38333 Expiration Date:** October 19, 2025		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
	Plans shall be coordinated with the CIP and shall be subject to the satisfaction of the City Engineer. Arya Rd/Clinton Keith Rd: The project shall construct improvements or provide fair-share contribution as identified in the approved TIA and subject to the satisfaction of the City Engineer. Improvements include northbound striping to provide dedicated NBL and NBTR, dedicated SBL and SBTR. Signal modifications include changing NB-SB permissive phasing to protective permissive phasing along with associated improvements necessary to accomplish the lane configuration, road widening, and signal operation discussed above. These improvements would include widening of Arya Rd to 4 lanes. Wildomar Trail/Proj Driveway 4: The project shall construct improvements as a project design feature to add Two Stage Gap Acceptance for EBL approach from Project Driveway consistent with the striping concept included in the approved TIA and subject to the satisfaction of the City Engineer. Sight distance at each project access point shall be reviewed with respect to standard Caltrans and City of Wildomar sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.			

ATTACHMENT B - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: TENTATIVE PARCEL MAP No. 38333			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**Parcel Map 38333 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
	On-site traffic signing and striping plan shall be constructed as demonstrated in detailed construction plans for the project site subject to the satisfaction of the City Engineer. All public improvement plans shall include adequate transitions beyond the project boundary to 300', at the discretion of the City Engineer. Completion of said improvements shall occur prior to first Certificate of Occupancy for the project site. Design of all public improvements shall be coordinated and approved at the discretion of the City Engineer.			

END

ATTACHMENT C

PC Resolution No. 2022-28
CUP & Plot Plan No. 21-0145

PC RESOLUTION NO. 2022-28

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WILDOMAR, CALIFORNIA, APPROVING CONDITIONAL USE PERMIT NO. 21-0145 (TO ALLOW GROCERY STORE SALE OF ALCOHOL) AND PLOT PLAN NO. 21-0145 TO DEVELOP A 34,540 SQUARE-FOOT MULTI-TENANT RETAIL CENTER AND A 150-UNIT GATED APARTMENT PROJECT ON A 9.05-ACRE SITE IN THE C-P-S ZONE, SUBJECT TO CONDITIONS, TO ACCOMMODATE THE DEVELOPMENT OF THE WILDOMAR CROSSROADS MIXED-USE PROJECT LOCATED AT THE NORTHWEST CORNER OF WILDOMAR TRAIL AND CLINTON KEITH ROAD (APN: 376-410-015, -016, -017, & -021)

WHEREAS, the Planning Department has received an application for a Conditional Use Permit to establish alcohol sales for off-site consumption as part of the Sprouts Farmers Market store, and to develop the 9.05-acre site with the 34,540 square-foot multi-tenant retail center (Parcels 1 - 4) and the 150-unit gated multi-family apartment project (Parcel 5) consistent with the City's commercial and multi-family design standards and guidelines, including full on-site and off-site improvements per the WMC from:

Project Applicant:	Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc.
Project Location:	Northwest corner of Wildomar Trail and Clinton Keith Road
APN:	APN: 376-410-015, -016, -017, & -021
Project Area:	9.05+/- acres

WHEREAS, in accordance with Section 17.200, 17.216 and 17.248 of the Wildomar Municipal Code, the Planning Commission has the authority to review the proposed Wildomar Crossroads mixed-use project as described above; and

WHEREAS, the proposed Wildomar Crossroads mixed-use project is considered a "Project" as defined by the California Environmental Quality Act, Public Resources Code §21000 et seq. ("CEQA"); and

WHEREAS, the Planning Director determined that there was substantial evidence that the proposed Wildomar Crossroads project may have one or more significant effects on the environment and that preparation of a Mitigated Negative Declaration was therefore warranted under Section 15070 of the CEQA Guidelines; and

WHEREAS, in accordance with Section 17.192.040 of the Wildomar Municipal Code, the Planning Department on October 4, 2022 gave public notice to all property owners within a 600-foot radius of the project boundary notifying said property owners of the October 19, 2022 Planning Commission meeting at which time the Planning Commission would consider CUP/Plot Plan No. 21-0145 for the Wildomar Crossroads Mixed-Use project; and

WHEREAS, In accordance with Ordinance No. 135, the Planning Department on October 7, 2022 posted two (2) public hearing notice "sign boards" on Wildomar Trail and Clinton Keith Road notifying the general public of the October 19, 2022 Planning Commission meeting at which time the Planning Commission would consider CUP/Plot Plan No. 21-0145 for the Wildomar Crossroads Mixed-Use project; and

WHEREAS, in accordance with Section 17.192.040 of the Wildomar Municipal Code, the Planning Department on October 7, 2022 published a legal notice in the "Press Enterprise", a local newspaper of general circulation, notifying the general public of the of the October 19, 2022 Planning Commission meeting where the Commission would review CUP/Plot Plan No. 21-0145 for the Wildomar Crossroads Mixed-Use project; and

WHEREAS, in accordance with Section 17.192.040 of the Wildomar Municipal Code, the Planning Commission conducted the duly noticed public hearing on October 19, 2022, at which time interested persons had an opportunity to testify in support of, or opposition to, the proposed CUP/Plot Plan No. 21-0145; and at which time the Planning Commission received public testimony concerning the proposed CUP/Plot Plan No. 21-0145.

NOW, THEREFORE, the Planning Commission of the City of Wildomar does hereby resolve, determine and order as follows:

SECTION 1. CEQA.

The approval of CUP/Plot Plan No. 21-0145 is in compliance with requirements of the California Environmental Quality Act ("CEQA"), in that on October 19, 2022, at a duly noticed public hearing, the Planning Commission adopted a Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program reflecting its independent judgment and analysis and documenting the environmental impacts and mitigation measures related to the proposed CUP/Plot Plan No. 21-0145 for the Wildomar Crossroads mixed-use project. The documents comprising the City's environmental review for the project are on file and available for public review at Wildomar City Hall, 23873 Clinton Keith Road, Suite 201, Wildomar, CA 92595.

SECTION 2. MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP).

The Planning Commission finds that the Wildomar Crossroads Mixed-Use project is consistent with the MSHCP, and the project is not located in any MSHCP criteria cell area, and required mitigation is provided through payment of the MSHCP Mitigation Fee.

SECTION 3. CONDITIONAL USE PERMIT FINDINGS.

Pursuant to Chapter 17.200 (Conditional Use Permits) and Chapter 17.248 (Alcoholic Beverage Sales) of the Wildomar Municipal Code, the Planning Commission, in light of the whole record before it, including but not limited to the Planning Department's staff report and all documents incorporated by reference herein, the City's General Plan and any other evidence within the record or provided at the public hearing of this matter, hereby finds and determines as follows:

A. That the proposed conditional use permit is consistent with the General Plan and in accord with the purposes of the zone in which the site is located.

Evidence: The proposal to have alcohol sales for off-site consumption as part of the Sprouts Farmers Market store is consistent with the General Plan land use designation of MUPA and C-P-S zoning in that it is a conditionally permitted use in the C-P-S (Scenic Highway Commercial) zone in accordance with Chapter 17.248.020.A of the Zoning Ordinance. The project is consistent with General Plan Policy LU 23.1 because the project accommodates the development of a commercial use in an area appropriately designated by the General Plan land use map for a mixed use project which includes grocery stores. The sale of alcohol is typically associated with grocery stores in the C-P-S zone and other similar commercial zones in the City. Further, the sale of alcohol will be restricted to "off-premise" consumption only (i.e., no on-site consumption) in accordance with the requirements of a Type 20 ABC license. Therefore, the proposed CUP for alcohol sales meets this finding.

B. The proposed use will not be detrimental to the health, safety, or general welfare of the community.

Evidence: The proposal to have alcohol sales for off-site consumption as part of the Sprouts Farmers Market store will not be detrimental to the health, safety, or general welfare of the community since it will be highly regulated by the State Alcohol Beverage Control. (ABC). The sale of alcohol is typically associated with commercial uses, and grocery stores in particular, in the C-P-S zone and other similar commercial zones in the City and will be restricted to "off-premise" consumption only (i.e., no on-site consumption) in accordance with the requirements of a Type 20 ABC license. Further, the store owner will be required to obtain a Type 20 license prior to the sale of any alcohol from the premises, which will be regulated by the State Alcohol Beverage Control (ABC). As no alcohol will be consumed on-site or within the building, the sale of alcohol for this grocery store will not be detrimental to the health, safety, or general welfare of the community. Therefore, the proposed CUP for alcohol sales meets this finding.

C. The proposed conditional use permit is consistent with the development standards of Section 17.248 (Alcoholic Beverage Sales).

Evidence: The proposed conditional use permit is consistent with the following:

- Section 17.248.020 sets forth the requirement that off-premise sale can only occur in the R-R, C-1/C-P, C-P-S and C-R zones. As the project has an existing C-P-S zone designation, the project meets this requirement.

- Section 17.248.030.C requires that off-premise sales are permitted provided the vehicular traffic from the facility does not reasonably create a potential hazard to schools, churches, public parks or playgrounds. The Ronald Reagan elementary

school is the nearest school to the Sprouts Farmers market and is over 2,000 feet away. ABC requirements allow for alcohol sales provided it is more than 600 feet away from schools. The nearest "park" is the Hartford Park HOA private park (and playground) and is approximately 1,500 feet away from the proposed Sprouts Farmers market. Further, based on the site design, street improvements and distance, it is staff's opinion that the off-premise sale of alcohol at the Sprouts Farmers market will not create traffic hazards.

- Section 17.248.030.D requires that the notice of public hearing be sent to all property owners within a 600-foot radius of the project site and to the school district. On October 4, 2022, the Planning Department mailed out a public hearing notice to all property owners and Lake Elsinore Unified School District in compliance with code section.

SECTION 4. PLOT PLAN FINDINGS FOR COMMERCIAL RETAIL SITE.

In accordance with Chapter 17.216 of the Wildomar Municipal Code (Title 17), the Planning Commission, in light of the whole record before it, including but not limited to the Planning Department's staff report and all documents incorporated by reference herein, the City's General Plan and any other evidence within the record or provided at the public hearing of this matter, finds and determines as follows:

A. The proposed use is consistent with the Wildomar General Plan and Zoning Ordinance.

Evidence: The proposed Wildomar Crossroads mixed-use project which consists of 34,450 square feet of retail uses (Sprouts Grocery store, restaurants and shops) and a 150-unit multi-family apartment community is consistent with the intent of the General Plan land use designation of Mixed-Use Planning Area (MUPA) as this land use designation encourages the development of mixed-use projects that have a neighborhood and regional influence, and that provide housing opportunities. The proposed land uses will provide result in a variety of jobs, shopping opportunities, sales tax, property tax revenue and housing opportunities. Given the layout of the proposed site plan, the project will be walkable for residents of the apartment community and employees/visitors of the business on site, including providing nearby neighborhood residents with a variety of retail and shopping needs in very close proximity.

Further, the commercial retail center and its uses are permitted in the C-P-S (Scenic Highway Commercial) zone subject to the approval of a plot plan provided all development standards of Chapter 17.76.030 are complied with. The proposed site plan has been evaluated by each City department and Riverside County Fire Department as part of the city's development review process. Based on this review each department has determined that the proposed Wildomar Crossroads mixed-use project meets and/or exceeds City and County development standards as discussed within the staff report. In addition, the proposed Wildomar Crossroads mixed-use project also is consistent with the following General Plan policies:

LU 4.1 The proposed retail development will accommodate a land use development proposal that is located and designed to visually enhance and not degrade the character of the surrounding area as the project is consistent with the City's Commercial Design Standards and Guidelines.

LU 6.1 The proposed retail development will be developed in accordance with the proposed General Plan land use designations that ensures compatibility and minimizes impacts.

LU 22.1 The proposed retail development will accommodate the development of commercial retail in an area that is appropriately designated by the General Plan for mixed-use projects

LU 22.10 The proposed retail development is designed to consider the surrounding areas to visually enhance, and not degrade, the appearance of adjacent structures as the project is consistent with the City's Commercial Design Standards and Guidelines

LU 23.1 The proposed project resulting in the commercial retail and professional office area is properly located and designated in accordance with the General Plan.

LU 23.7 The proposed project will be served by water and sewer along provided by EVMWD to meet the project demands.

LU 23.8 The proposed project results in commercial retail opportunities in a commercially designated area that will provide much needed services and jobs for Wildomar residents, including sales tax revenue for the City in accordance with the General Plan.

LU 24.1 The proposed project will accommodate the development of a new commercial retail, residential, restaurant and grocery store uses that will provide jobs and sales tax revenues.

B. The overall development of the land shall be designed to conform to the logical development of the land and to be compatible with the present and future logical development of the surrounding property.

Evidence: The proposed Wildomar Crossroads mixed-use project has been designed to conform to the logical development of the land and to be compatible with the present and future logical development of the surrounding property. The project site has had the MUPA land use designation since incorporation and the proposed mixed-use project meets the intent of this land use designation. Further, due to its proximity to the Hartford Park residential community, the project creates opportunities for shopping and services to these residents in close proximity to their neighborhood. Based on this, the proposed Wildomar Crossroads mixed-use project meets this finding.

C. The Plot Plan considers the location and need for dedication and improvement of necessary streets and sidewalks, including the avoidance of traffic congestion.

Evidence: The proposed commercial retail center development were considered in preparation of the plot plan. The site has been planned appropriately and the location and need for dedication and improvement of necessary streets and sidewalks, including the avoidance of traffic congestion has been addressed. Wildomar Trial will be improved in accordance with Public Works street standards (including curb, gutter and sidewalks) to facilitate the safe off-site and on-site traffic flow generated by the project. Further, a detailed traffic impact analysis was prepared as part of the MND which was extensively analyzed. The project must comply with all improvement measures identified in the approved Traffic Impact Analysis (TIA) and must include Transportation Demand Management mitigation as identified within the TIA to reduce Vehicle Miles Traveled (VMT) consistent with the intent of SB 743 and to the satisfaction of the City Engineer. Based on this, the proposed Wildomar Crossroads mixed-use project meets this finding.

D. The Plot Plan takes into consideration topographical and drainage conditions, including the need for dedication and improvements of necessary structures.

Evidence: The construction of the project has been designed and conditioned to comply with all applicable City ordinances, codes, and standards including, but not limited to, requirements relating to storm water runoff management and other drainage control regulations. The project drainage has been designed to accommodate a series of filtration and detention areas (within and around the drive aisles and parking areas) to capture storm runoff. Further the project was required to prepare a Hydrology/Hydraulic study and Preliminary Water Quality Management Plan as part of the MND which analyzed and addressed in detail all drainage impacts that could have resulted from this project. Based on this, the proposed Wildomar Crossroads mixed-use project meets this finding.

E. All plot plans which permit the construction of more than one structure on a single legally divided parcel shall, in addition to all other requirements, be subject to a condition which prohibits the sale of any existing or subsequently constructed structures on the parcel until the parcel is divided and a final map recorded in accordance with Title 16 (Subdivisions) in such a manner that each building is located on a separate legally divided parcel.

Evidence: The project does include a tentative parcel map (TPM No. 38333) to subdivide the 9.05-acre site into five (5) lots to accommodate the proposed Wildomar Crossroads mixed-use project. The tentative parcel map has been conditioned to be recorded prior to any occupancy of the project. Based on this, the proposed Wildomar Crossroads mixed-use project meets this finding.

SECTION 5. PLOT PLAN FINDINGS FOR RESIDENTIAL SITE:

In accordance with Chapter 17.216 of the Wildomar Municipal Code (Title 17), the Planning Commission, in light of the whole record before it, including but not limited to the Planning Department's staff report and all documents incorporated by reference herein, the City's General Plan and any other evidence within the record or provided at the public hearing of this matter, finds and determines as follows:

A. The proposed use is consistent with the Wildomar General Plan and Zoning Ordinance.

Evidence: The proposed plot plan to develop the 150-unit multi-family apartment community with related on-site open space and recreational components as part of the Wildomar Crossroads mixed-use project is consistent with the intent of the General Plan land use designation of MUPA as this land use is intended to accommodate a variety of mixed-uses including attached and detached multi-family dwelling units. The residential site area does not require any special zoning since the MUPA land use designation allows multi-family uses. The proposed multi-family apartment community is also consistent with the Zoning Ordinance as the site plan meets and exceeds all development standards.

Further, the density of the apartment community at 33 units/acre is consistent with the Mixed-Use Overlay (MU) zoning that requires multi-family development of at least 30 units/acre. The overlay was applied to this site when the City Council adopted the 2013 Housing Element (in December 2013). The proposed plot plan has been evaluated in accordance with the multi-family development standards as outlined in Section 17.44 of the Wildomar Municipal Code. Based on this review, it has been determined that each standard has been met and/or exceeded as discussed within the staff report. Based on this, the proposed residential plot plan meets this finding. Lastly, the proposed residential project also promotes the following land use and housing policies:

LU 2.1 The proposed project will accommodate a land use development that is in accordance with patterns and distribution of land uses that are depicted on the General Plan Land Use map proposed for the subject site.

LU 4.1 The proposed project will accommodate a land use development proposal that is located and designed to visually enhance and not degrade the character of the surrounding area given its compliance with the City's Multi-family objective design standards.

LU 6.1 The proposed project will be developed in accordance with the proposed General Plan land use designation that ensures compatibility and minimizes impacts.

LU 22.1 The proposed project will accommodate the development of multi-family attached dwellings in an area that is appropriately designated by the General Plan.

LU 22.4 The proposed project will provide a specific housing type, style and density that is accessible to and, meets the needs, of a range of lifestyles, physical abilities and income levels.

LU 22.10 The proposed project is designed to consider the surrounding areas to visually enhance, and not degrade, the appearance of adjacent residential structures given its compliance with the City's Multi-family objective design standards.

LU23.6 The proposed project will have proper mitigation measures to protect the neighboring residential areas from noise, light, fumes, odors, vehicular traffic, parking and operational hazards.

LU23.7 The proposed project will be served by water and sewer provided by EVMWD to meet the project demands.

LU24.8 The proposed project will accommodate a land use development proposal that is located and designed to visually enhance and not degrade the character of the surrounding area given its compliance with the City's Multi-family objective design standards.

H-1.1 The proposed apartment community is a rental development that will help ensure a sufficient supply of properly planned land to meet the various housing needs identified in the City's Regional Housing Needs Allocation (RHNA) outlined in the Housing Element.

H-6.1 The proposed project will utilize energy conservation measures in that each enclosed garage space is conditioned to have an EV charging outlet for electric vehicles and will be designed to meet Cal-Green Building code standards.

B. The overall development of the land shall be designed to conform to the logical development of the land and to be compatible with the present and future logical development of the surrounding property.

Evidence: The proposed 150-unit apartment community site plan has been designed to conform to the logical development of the land and to be compatible with the present and future logical development of the surrounding property. The project site has had the MUPA land use designation since incorporation and the MU Overlay zoning since the 2013 Housing Element adoption. The proposed mixed-use project meets the intent of these two designations. Further, the project will also provide additional housing opportunities for employees of the retail center and surrounding area. Based on this, the proposed final site plan of development meets this finding.

C. The Plot Plan considers the location and need for dedication and improvement of necessary streets and sidewalks, including the avoidance of traffic congestion.

Evidence: The site design of the proposed residential apartment community considered the location and need for dedication and improvement of necessary streets and sidewalks, including the avoidance of traffic congestion in preparation of the plot plan. The site has been planned appropriately and the location and need for dedication and improvement of necessary streets and sidewalks, including the avoidance of traffic congestion has been addressed through conditions of approval requiring full street dedication and improvements. Wildomar Trial and Clinton Keith Road will be improved along the project boundary in accordance with Public Works street standards (including curb, gutter and sidewalks) to facilitate the safe off-site and on-site traffic flow generated by the project. Further, a detailed traffic impact analysis was prepared as part of the MND which was extensively analyzed by the City's traffic engineering team. The project will comply with all improvement measures identified in the approved Traffic Impact Analysis (TIA) and will include appropriate TDM mitigation as identified within the TIA to reduce Vehicle Miles Traveled (VMT) consistent with the intent of SB 743. Based on this, the proposed Plot Plan to develop the residential apartment community meets this finding.

D. The Plot Plan takes into consideration topographical and drainage conditions, including the need for dedication and improvements of necessary structures.

Evidence: The construction of the project has been designed and conditioned to comply with all applicable City ordinances, codes, and standards including, but not limited to, requirements relating to storm water runoff management and other drainage control regulations. The project drainage has been designed to accommodate a series of filtration and detention areas (within and around the drive aisles and parking areas) to capture storm runoff. Further the project was required to prepare a Hydrology/Hydraulic study and Preliminary Water Quality Management Plan as part of the MND which analyzed and addressed in detail all drainage impacts that could have resulted from this project. Based on this, the proposed final site plan of development meets this finding.

E. All plot plans which permit the construction of more than one structure on a single legally divided parcel shall, in addition to all other requirements, be subject to a condition which prohibits the sale of any existing or subsequently constructed structures on the parcel until the parcel is divided and a final map recorded in accordance with Title 16 (Subdivisions) in such a manner that each building is located on a separate legally divided parcel.

Evidence: The project does include a tentative parcel map (TPM No. 38333) to subdivide the 9.05-acre site into five (5) lots to accommodate the proposed Wildomar Crossroads mixed-use project. The tentative parcel map has been conditioned to be recorded prior to any occupancy of the project. Based on this, the proposed Wildomar Crossroads mixed-use project meets this finding.

SECTION 6. PLANNING COMMISSION ACTION:

Based on the foregoing findings, and on substantial evidence in the whole of the record, the Planning Commission hereby adopts PC Resolution No. 2022-28 approving Conditional Use Permit and Plot Plan No. 21-0145, subject to conditions of approval, as provided herein and attached hereto to this Resolution as Exhibit 1.

PASSED, APPROVED AND ADOPTED this 19th day of October, 2022 by the following vote:

AYES.

NOES:

ABSENT:

ABSTAINED:

_____
Kim Strong
Planning Commission Vice-Chair

ATTEST:

_____
Matthew C. Bassi
Planning Director/Minutes Secretary

APPROVED AS TO FORM:

_____
Stephanie Gutierrez
Assistant City Attorney

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**

PLANNING DEPARTMENT CONDITIONS				
General / Standard Conditions (Applies to both the Commercial & Residential Portions of the Project)				
1.	In compliance with Section 15094 of the CEQA Guidelines, the Planning Department shall file a Notice of Determination (NOD) with the Riverside County Clerk within five (5) working days after CUP/Plot Plan No. 21-0145 is approved by the Planning Commission. The NOD notice shall include payment of the required California Department of Fish and Wildlife (Fish and Game Code Section 711.4.d.3) fee, and Riverside County Clerk administrative fee. Total fee amount shall be **$2,498.00** and shall be made payable to the "City of Wildomar" and submitted to the Planning Department at least 7 days prior to the October 19, 2022 Planning Commission (10/12/22). Failure to pay the required fee will result in the project being deemed null and void (California Fish and Game Code Section 711.4(c)).	October 26, 2022	Planning Department	
2.	The Applicant shall review, and sign below verifying the "Acceptance of the Conditions of Approval" for Tentative Parcel Map No. 38333 and submit the signed page to the Wildomar Planning Department within one (1) week of Planning Commission approval. Applicant Signature Date Applicant Signature Date	October 26, 2022	Planning Department	

3.	The Applicant shall indemnify, protect, defend, and hold harmless, the City of Wildomar, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, from any and all claims, demands, law suits, writs of mandamus, and other actions and proceedings (whether legal, equitable, declaratory, administrative or adjudicatory in nature), and alternative dispute resolutions procedures (including, but not limited to arbitrations, mediations, and other such procedures), (collectively "Actions"), brought against the City, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul, the any action of, or any permit or approval issued by, the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City), for or concerning the Project, whether such Actions are brought under the California Environmental Quality Act, the Planning and Zoning Law, the Subdivision Map Act, Code of Civil Procedure Chapter 1085 or 1094.5, the California Public Records Act, or any other state, federal, or local statute, law, ordinance, rule, regulation, or any decision of a court of competent jurisdiction. City shall promptly notify the Applicant of any Action brought and request that Applicant defend the City. It is expressly agreed that Applicant may select legal counsel providing the Applicant's defense and the City shall have the right to approve separate legal counsel providing the City's defense. The Applicant shall reimburse City for any attorneys' fees, costs and expenses directly and necessarily incurred by the City in the course of the defense. Applicant agrees that City will forward monthly invoices to Applicant for attorneys' fees, costs and expenses it has incurred related to its defense of any Action and Applicant agrees to timely payment	Ongoing	Planning Department	

	within thirty (30) days of receipt of the invoice. Within fourteen (14) days of an Action being filed, Applicant agrees to post adequate security or a cash deposit with City in an amount to cover the City's estimated attorneys' fees, costs and expenses incurred by City in the course of the defense in order to ensure timely payment of the City's invoices. The amount of the security or cash deposit shall be determined by the City. City shall cooperate with Applicant in the defense of any Action.			
4.	Approval of *CUP/Plot Plan/FSPOD No. 21-0145* shall expire on October 19, 2025 (3 years after approval by the Planning Commission) if grading and/or building permits have not been issued and substantial construction work has commenced on the project site. The Applicant may apply in writing for an Extension of Time (EOT) for review and approval of the Planning Director in accordance with Section 17.216.070 of the Wildomar Municipal Code. Said extension of time application and required fee must be submitted to the Planning Department prior to the expiration date.	October 19, 2025	Planning Department	
5.	In accordance with Section 66020.d.1 of the Government Code, the Applicant has 90 days from project approval to file a protest of the imposition of fees, dedications, reservations, or other exactions being imposed on this project. Notice is hereby given to the Applicant that the 90-day appeal hereby begins with approval of this project.	January 19, 2023	Planning Department	
6.	Within 60 days of approval of *CUP/Plot Plan/FSPOD No. 21-0145* the Applicant shall pay any outstanding deposit account balances. Failure to pay the outstanding balance by the due date may result in delays in the submittal of final map, grading plans, improvement plans and/or building/construction plans.	December 19, 2022	Planning Department	

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
7. Applicant hereby understands and agrees that failure to comply with all Conditions of Approval may result in the City Council taking action resulting in a modification to the Conditions of Approval and/or suspension or revocation of the plot plan and/or conditional use permit.	On-Going	Planning Department	
8. The project shall be developed in accordance with the approved plot plan approved by the Planning Commission on October 19, 2022. The Applicant may request a modification/revision to the approved project, if needed, in accordance with Sections 17.228 of the Wildomar Municipal Code.	Ongoing	Planning Department	
9. The proposed Project shall comply with existing SCAQMD rules for the reduction of fugitive dust emissions in accordance with SCAQMD Rule 403.	On-Going	Planning Dept.	
10. All grading shall conform to the California Building Code and all other relevant laws, rules, and regulations governing grading in the City of Wildomar. Prior to commencing any grading which includes 50 or more cubic yards, the developer shall obtain a grading permit from the Building Dept.	On-Going	Planning & Engineering Depts.	
11. Erosion control-landscape plans, required for manufactured slopes greater than 3 feet in vertical height, are to be signed by a registered landscape architect and bonded (refer to dept. form 284-47). Planting shall occur within 30 days of meeting final grades to minimize erosion and to ensure slope coverage prior to the rainy season. The developer shall plant and irrigate all manufactured slopes steeper than a 4:1 (horizontal to vertical) ratio and 3 feet or greater in vertical height with grass or ground cover; slopes 15 feet or greater in vertical height shall be planted with additional shrubs or trees or as approved by the City Engineer.	On-Going	Planning & Engineering Depts.	

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
12. The Applicant is prohibited from using any sort of blasting device or activity during all grading and/or construction operations.	On-Going	Planning Department	
13. The proposed development approved by the Planning Commission shall comply with the standards and requirements of the City's Light Pollution Ordinance in accordance with Section 8.64 of the WMC.	On-Going	Planning Department	
14. As required by Chapter 8.56 of the WMC, subsequent development on the site will need to comply with the County of Riverside, Department of Environmental Health, Local Enforcement Agency (LEA) for all activities related to potential hazardous materials.	On-Going	Planning Department	
15. The Applicant shall provide EV charging stations throughout the parking lot at designated locations consistent with the plot plan and the requirements of the State Cal Green Building Code.	On-Going	Planning & Building Departments	
16. The Applicant shall be subject to, and comply with, the following four (4) state mandated codes/ordinances including all other applicable state & local codes/ordinances already in effect: • California Building Code, Chapter 7A; • California Residential Code, Chapter R327; • California Referenced Standards Code, Chapter 12-7A; and • California Fire Code, Chapter 49.	On-Going	Building & Fire Departments	
17. The proposed Project shall comply with the requirements of Chapter 9.48 of the WMC relating to noise.	On-Going	Planning Department	
18. As required by City of Wildomar Municipal Code Section 13.12.050, Regulatory Consistency, and the MS4 Permit from the San Diego Regional Water Quality Control Board, stormwater drainage improvements must be consistent and in accordance with these provisions.	On-Going	Public Works Department	

19.	As required by City of Wildomar Municipal Code Section 16.40.10, Installation Requirements, the project would comply with all applicable requirements for undergrounding utilities per this code section.	On-Going	Public Works Department	
20.	As required by City of Wildomar Municipal Code Section 8.104, Solid Waste Collection and Disposal, the generation, accumulation, handling, collection, transportation, conversion, and disposal of solid waste must be controlled and regulated through the provisions of this chapter.	On-Going	Public Works Department	
Initial Study/Mitigated Negative Declaration (IS/MND) Mitigation Measures (Applicable to Both Project Sites):				
Air Quality Resources				
21.	**AQ-1** During the site preparation phase, construction equipment greater than 150 horsepower (hp), the Construction Contractor shall ensure that off-road diesel construction equipment that complies with Environmental Protection Agency (EPA)/California Air Resources Board (CARB) Tier 3 emissions standards and shall ensure that all construction equipment is tuned and maintained in accordance with the manufacturer's specifications.	During site preparation	Planning Department & Public Works Department	
22.	**AQ-2** All actively graded (disturbed) areas within the project site during site preparation activities shall be watered at 2.1-hour watering intervals (e.g., 4 times per day) or a movable sprinkler system shall be in place to ensure minimum soil moisture of 12 percent in maintained for actively graded areas. Moisture content can be verified with use of a moisture probe by the grading contractor.	During site preparation	Planning Department & Public Works Department	

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
Biological Resources			
23. **BIO-1** The Project applicant/developer shall retain a qualified biologist to conduct a 30-day pre- construction survey for burrowing owls (BUOW). The results of the survey shall be submitted to the City of Wildomar prior to obtaining a grading permit. If BUOW are not detected during the pre-construction survey, no further mitigation is required. If BUOW are detected during the pre-construction survey, the project applicant shall relocate burrowing owls out of harm's way, in consultation with the CDFW. Notification to the CDFW shall occur if burrowing owls are found to be present onsite and the development of a conservation strategy in cooperation with the U/S/ Fish and Service, the CDFW, and the Western Riverside County Regional Conservation Authority (RCA) shall be conducted. The project applicant/developer and a qualified consulting biologist will be required to prepare and submit for approval a BUOW relocation program. The report shall be submitted to the applicant and the City of Wildomar concurrently.	Within 30 days prior to construction, Prior to issuance of grading permits	Planning Department & Public Works Department	
24. **BIO-2** Prior to vegetation clearance, the Project applicant/developer shall retain a qualified biologist to conduct a pre-disturbance nesting bird survey in accordance with the following: • The survey shall be conducted no more than three (3) days prior to the initiation of clearance/construction work; • If pre-disturbance surveys indicate that bird nests are not present or are inactive, or if potential habitat is unoccupied, no further mitigation is required; • If active nests of birds are found during the surveys, a species-specific no-disturbance buffer zone shall be established by a qualified biologist	Within three (3) days prior to the initiation of clearance/construction work	Planning Department & Public Works Department	

	around active nests until a qualified biologist determines that all young have fledged (i.e., no longer reliant upon the nest).			
Cultural Resources				
25.	**CUL-1** Human Remains. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b) remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within the period specified by law (24 hours). Subsequently, the Native American Heritage Commission shall identify the "most likely descendant." The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98	During any ground-disturbing construction activities	Planning Department & Public Works Department	
Geology and Soils				
26.	**GEO-1** The project applicant/developer shall incorporate the recommendations of the Geotechnical Report prepared Leighton and Associates, Inc. (**Appendix 8)** into project plans related to the proposed project. The project's building plans shall demonstrate that they incorporate all applicable recommendations of the Geotechnical Report and comply with all applicable requirements of the latest adopted version of the California Building Code.	During building plan check, prior to any ground-disturbing construction activities	Planning Department and Building and Safety Department	

27.	**GEO-2** A paleontological grading observation schedule by a Certified Paleontologist shall be maintained when grading in bedrock units to further evaluate the fossil resources of the site. Salvage operations shall be initiated by the Certified Paleontologist and coordinated with the developer if other significant concentrations of fossils, as determined by the Certified Paleontologist, are encountered. Any paleontological resources shall be provided for curation at a local curation facility, or any other local museum or repository willing and able to accept and house the resource to preserve for future scientific study.	During ground-disturbing construction activities	Planning Department & Public Works Department	
Hazards and Hazardous Materials				
28.	**HAZ-1** Prior to the development of the site, representative sampling of the soil stockpiles shall be conducted. Soil samples shall be analyzed by a laboratory licensed with the Environmental Laboratory Accreditation Program [ELAP] for total petroleum hydrocarbon chains by EPA Method 8015M, Title 22 Metals by EPA Method 6010B/7471A, organochlorine pesticides by EPA Method 8081A, volatile organic compounds by EPA Method 8260B/5035 and polychlorinated biphenyls by EPA Method 8082. During stockpile testing, a soil sample shall be collected from the area where an orchard may have been located and tested for organochlorine pesticides to assess for residual pesticides. If the results of the soil testing show chemical levels are below EPA Region 9 or DTSC screening levels for residential land use, grading or excavation may proceed accordingly. Remediation and/or removal of contaminated soils shall be made prior to development, if chemical levels are above screening levels. Remediation shall be made in coordination with the local health department, SCAQMD, the California Department of Toxic Substances Control, the U. S. Environmental Protection Agency or other	Prior to site development	Wildomar Building Department, Riverside County Health Department, SCAQMD, California Department of Toxic Substances Control, U.S. Environmental Protection Agency	

	regulatory agencies and in compliance with established residential screening levels.			
29.	**HAZ-2** After grading is completed, but before construction begins, the project Applicant/developer shall install soil gas probes with a 100-foot grid spacing in the footprints of the proposed structures, at depths of 5 feet below ground surface and 15 feet below ground surface at each location. Methane shall be tested from the probes with a properly calibrated hand-held device with a detection limit of no greater than 500 ppmv, or via a laboratory licensed with ELAP by ASTM Method 1946D, or a combination of the two. In addition, calibrated pressure gauges such as Magnehelic gauges or equivalent with a range of 0-10 inches of water pressure to a range of 0-100 inches of water pressure shall be used on each probe. If methane levels in probes are below 10 percent of the Lower Explosive Limit (10 percent LEL or 5,000 ppmv), the project could proceed without further action. For areas of the site that have methane concentrations at or exceeding 10 percent LEL or have pressures exceeding 3 inches of water, further testing shall be implemented to determine if a methane mitigation system is necessary. If additional weekly testing shows that methane concentrations consistently exceed 10 percent LEL or have pressures exceeding 3 inches of water over a period of 30 days and a plot of the resulting data does not show a downward trend in concentrations or pressures, then a methane mitigation system shall be incorporated into the building plans for the structures where the elevated concentrations and/or pressures were observed. If there is a downward trend but the concentrations are still above 10 percent LEL or have pressures above 3 inches of water, then additional testing past 30 days may be requested to determine if concentrations and pressures subside below the action levels.	Prior to site development	Wildomar Building Department, Riverside County Health Department, SCAQMD, California Department of Toxic Substances Control, U.S. Environmental Protection Agency	

Planning Commission Date: October 19, 2022	CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date: October 19, 2025		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
30. **HAZ-3** Prior to the issuance of building permits, the project applicant/developer shall demonstrate, to the satisfaction of the City Building Official and the Riverside County Fire Chief, compliance with the 2019 California Building Code (or the most recent edition) (Part 2 of Title 24 of the California Code of Regulations) and the 2019 California Fire Code (or the most recent edition) (Part 9 of Title 24 of the California Code of Regulations), including those regulations pertaining to materials and construction methods intended to mitigate wildfire exposure as described in the 2019 California Building Code and California Residential Code (or most recent edition); specifically California Building Code Chapter 7A; California Residential Code Section R327; California Residential Code Section R337; California Referenced Standards Code Chapter 12-7A; and California Fire Code Chapter 49.	Prior to issuance of building permits	Building and Safety Department and Riverside County Fire Department	
31. **HAZ-4** Prior to the issuance of a certificate of occupancy, the applicant shall demonstrate, to the satisfaction of the City Building Official and the County Fire Chief, compliance with the vegetation management requirements prescribed in California Fire Code Section 4906 and California Government Code Section 51182.	Prior to issuance of certificate of occupancy	Building and Safety Department and Riverside County Fire Department	
Noise Measures			
32. **NOI-1** All noise producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers and air-inlet silencers, where appropriate, in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.	Prior to construction	Planning Department and Building and Safety Department	

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
Transportation			
33. **TRA-1** During final design, stage construction and detour plans will be prepared to minimize disruption to the traveling public. Such plans shall be prepared in consultation with affected local jurisdictions prior to construction. Adequate access shall be provided at all times to and from side streets serving adjacent land uses. To further ensure public safety, proper detours and warning signs shall be established. The stage construction and detour plans shall be designed to not interfere with any emergency response or evacuation plans, and construction routes shall utilize non-residential streets to the extent practicable. Finally, such plans shall identify construction worker parking areas and equipment staging areas to minimize impacts to roadway operations.	During final design	Planning Department & Public Works Department	
Tribal and Cultural Resources			
34. **TRI-1** Inadvertent Archeological Find. If during ground disturbance activities, cultural resources are discovered that were not assessed by the archaeological report(s) and/or environmental assessment conducted prior to project approval, the following procedures shall be followed. Cultural resources are defined, as being multiple artifacts in close association with each other, but also include fewer artifacts if the area of the find is determined to be of significance due to its sacred or cultural importance as determined in consultation with the lead agency and Native American Tribe(s) that elected to consult under AB 52 ("Consulting Tribe(s")). a. All ground disturbance activities within 100 feet of the discovered cultural resources shall be halted until a meeting is convened between the developer, the archaeologist, the tribal representative(s) and the Planning Director to discuss the significance of the find.	During any ground-disturbing or construction activities	Planning Department & Public Works Department	

	b. At the meeting, the significance of the discoveries shall be discussed and after consultation with the tribal representative(s), developer, and the archaeologist, a decision shall be made, with the concurrence of the Planning Director, as to the appropriate mitigation (documentation, recovery, avoidance, etc.) for the cultural resources. c. Grading or further ground disturbance shall not resume within the area of the discovery until an agreement has been reached by all parties as to the appropriate mitigation. Work shall be allowed to continue outside of the buffer area and will be monitored by additional Tribal monitors if needed. d. Treatment and avoidance of the newly discovered resources shall be consistent with the Treatment and Monitoring Agreements entered into with the Consulting Tribe(s) and the applicant. This may include avoidance of the cultural resources through project design, in-place preservation of cultural resources located in native soils and/or re-burial on the Project property so they are not subject to further disturbance in perpetuity as identified in Mitigation Measures TRI-2 and TRI-7. e. If the find is determined to be significant and avoidance of the site has not been achieved, a Phase III data recovery plan (see Mitigation Measure TRI-6) shall be prepared by the project archeologist, in consultation with the Consulting Tribe(s), and shall be submitted to the City for their review and approval prior to implementation of the said plan. f. Pursuant to Calif. Pub. Res. Code § 21083.2(b) avoidance is the preferred method of preservation for archaeological resources and tribal cultural resources. If the landowner and the Consulting Tribe(s) cannot agree on the significance or the mitigation for the archaeological or tribal cultural resources, these issues will be presented to the Planning Director for decision. The City's Planning Director shall make the			

	determination based on the provisions of the California Environmental Quality Act with respect to archaeological and tribal cultural resources, recommendations of the project archeologist, and shall take into account the cultural and religious principles and practices of the Consulting Tribe(s). Notwithstanding any other rights available under the law, the decision of the City Planning Director shall be appealable to the City Planning Commission and/or City Council.			
35.	**TRI-2** Cultural Resources Disposition. In the event that Native American cultural resources are discovered during the course of grading (inadvertent discoveries), the following procedures shall be carried out for final disposition of the discoveries: a. One or more of the following treatments, in order of preference, shall be employed with the Consulting Tribe(s). Evidence of such shall be provided to the City of Wildomar Planning Department: i. Preservation-In-Place of the cultural resources, if feasible. Preservation in place means avoiding the resources, leaving them in the place where they were found with no development affecting the integrity of the resources. ii. Reburial of the resources on the Project property. The measures for reburial shall include, at least, the following: Measures and provisions to protect the future reburial area from any future impacts in perpetuity. Reburial shall not occur until all legally required cataloging and basic recordation have been completed, with an exception that sacred items, burial goods and Native American human remains are excluded. Any reburial process shall be culturally appropriate. Listing of contents and location of the reburial shall be included in the confidential Phase IV report (see Mitigation Measure	During grading activities	Planning Department & Public Works Department	

	TRI- 6). The Phase IV Report shall be filed with the City under a confidential cover and not subject to Public Records Request. iii. If preservation in place or reburial is not feasible then the resources shall be curated in a culturally appropriate manner at a Riverside County curation facility that meets State Resources Department Office of Historic Preservation Guidelines for the Curation of Archaeological Resources ensuring access and use pursuant to the Guidelines. The collection and associated records shall be transferred, including title, and are to be accompanied by payment of the fees by the Applicant necessary for permanent curation. Evidence of curation in the form of a letter from the curation facility stating that subject archaeological materials have been received and that all fees have been paid, shall be provided by the landowner to the City. There shall be no destructive or invasive testing on sacred items, burial goods, and Native American human remains, as defined by the cultural and religious practices of the Most Likely Descendant. Results concerning finds of any inadvertent discoveries shall be included in the Phase IV monitoring report.			
36.	**TRI-3** Archaeologist Retained. Prior to issuance of a grading permit the project applicant shall retain a Riverside County qualified Registered Professional Archaeologist (RPA), to monitor all ground disturbing activities in an effort to identify any unknown archaeological resources. The Registered Professional Archaeologist and the Tribal monitor(s) required by Mitigation Measures TRI-4 and TRI-5 shall manage and oversee monitoring for all initial ground disturbing activities and excavation of each portion of the project site including clearing, grubbing, tree removals, mass or rough grading, trenching, stockpiling of materials, rock crushing, structure demolition and etc.	Prior to issuance of grading permit	Planning Department & Public Works Department	

	The Registered Professional Archaeologist and the Tribal monitor(s), shall independently have the authority to temporarily divert, redirect or halt the ground disturbance activities to allow identification, evaluation, and potential recovery of cultural resources in coordination with any required special interest or tribal monitors. The developer/permit holder shall submit a fully executed copy of the contract to the Planning Department to ensure compliance with this condition of approval. Upon verification, the Planning Department shall clear this condition. In addition, the Registered Professional Archaeologist, in consultation with the Consulting Tribe(s), the contractor, and the City, shall develop a Cultural Resources Management Plan (CRMP) in consultation pursuant to the definition in AB 52 to address the details, timing and responsibility of all archaeological and cultural activities that will occur on the project site. A consulting tribe is defined as a tribe that initiated the AB 52 tribal consultation process for the Project, has not opted out of the AB 52 consultation process, and has completed AB 52 consultation with the City as provided for in Cal Pub Res Code Section 21080.3.2(b)(1) of AB52. Details in the Plan shall include: Project grading and development scheduling; The Project archaeologist and the Consulting Tribes(s) shall attend the pre- grading meeting with the City, the construction manager and any contractors and will conduct a mandatory Cultural Resources Worker Sensitivity Training to those in attendance. The Training will include a brief review of the cultural sensitivity of the Project and the surrounding area; what resources could potentially be identified during earthmoving activities; the requirements of the monitoring program; the protocols that apply in the event inadvertent			

	discoveries of cultural resources are identified, including who to contact and appropriate avoidance measures until the find(s) can be properly evaluated; and any other appropriate protocols. All new construction personnel that will conduct earthwork or grading activities that begin work on the Project following the initial Training must take the Cultural Sensitivity Training prior to beginning work and the Project archaeologist and Consulting Tribe(s) shall make themselves available to provide the training on an as-needed basis; The protocols and stipulations that the contractor, City, Consulting Tribe(s) and Project archaeologist will follow in the event of inadvertent cultural resources discoveries, including any newly discovered cultural resource deposits that shall be subject to a cultural resources evaluation.			
37.	**TRI-4 Native American Monitoring (Pechanga).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Pechanga Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land divider/permit holder for the monitoring of the project to the Planning Department and to the Engineering Department. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the Project Archaeologist.	During ground-disturbing activities	Planning Department & Public Works Department	

38.	**TRI-5 Native American Monitoring (Soboba).** Tribal monitor(s) shall be required on-site during all ground-disturbing activities, including grading, stockpiling of materials, engineered fill, rock crushing, etc. The land divider/permit holder shall retain a qualified tribal monitor(s) from the Soboba Band of Luiseno Indians. Prior to issuance of a grading permit, the developer shall submit a copy of a signed contract between the above-mentioned Tribe and the land divider/permit holder for the monitoring of the project to the Planning Department and to the Engineering Department. The Tribal Monitor(s) shall have the authority to temporarily divert, redirect or halt the ground-disturbance activities to allow recovery of cultural resources, in coordination with the Project Archaeologist.	During ground-disturbing activities	Planning Department & Public Works Department	
39.	**TRI-6 Archeology Report** – Phase III and IV. Prior to final inspection, the developer/permit holder shall prompt the Project Archeologist to submit two (2) copies of the Phase III Data Recovery report (if required for the Project) and the Phase IV Cultural Resources Monitoring Report. The Phase IV report shall include evidence of the required cultural/historical sensitivity training for the construction staff held during the pre-grade meeting. The Planning Department shall review the reports to determine adequate mitigation compliance. Provided the reports are adequate, the Community Development Department shall clear this condition. Once the report(s) are determined to be adequate, two (2) copies shall be submitted to the Eastern Information Center (EIC) at the University of California Riverside (UCR) and one (1) copy shall be submitted to the Consulting Tribe(s) Cultural Resources Department(s).	Prior to final inspection	Planning Department & Public Works Department	

40.	**TRI-7 Non-Disclosure of Reburial Locations**. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or associated grave goods shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, pursuant to the specific exemption set forth in California Government Code 6254 l., parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code 6254 (r).	During discovery of Native American human remains	Planning Department & Public Works Department	
Project Specific CUP/Plot Plan No. 21-0145 Conditions (Appliable to the Commercial/Retail Site)				
Prior to the Issuance of Grading Permits				
41.	Prior to the issuance of any grading permit, the Project applicant shall comply with all of the provisions of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), including payment of the MSHCP Local Development Mitigation Fee and Best Management Practices (specifically Appendix C, Standard Best Management Practices, of the MSHCP).	Prior to Issuance of Grading Permits	Planning Department	
42.	Prior to the issuance of the 1st grading permit on the property, the applicant shall submit a haul permit for any import of material to the site or export of material off-site for review and approval by the City Engineer and Planning Director. The request for a haul permit shall include a haul route plan addressing the limitations of haul hours, number of loads per day and the posting of traffic control personnel at all approved entrances/exits onto public roads. This haul permit shall be in place prior to the issuance of the grading permit and the mobilization of equipment on the project site. If the proposed material source or disposal site does not have an approved environmental	Prior to Issuance of a Grading Permit	Planning & Engineering Depts.	

	assessment, a grading environmental assessment shall be submitted for review and approval by the Planning Director prior to the issuance of the haul permit.			
43.	The grading plan shall include the following information in the Notes Section of the Grading Plan: "No grubbing/clearing of the site shall occur prior to scheduling the pre-grading meeting with Engineering. All project sites containing suitable habitat for burrowing owls, whether owls were found or not, require a 30-day preconstruction survey that shall be conducted within 30 days prior to ground disturbance to avoid direct take of burrowing owls. If the results of the survey indicate that no burrowing owls are present on-site, then the project may move forward with grading, upon Planning Department approval. If burrowing owls are found to be present or nesting on-site during the preconstruction survey, then the following recommendations must be adhered to: Exclusion and relocation activities may not occur during the breeding season, which is defined as March 1 through August 31, with the following exception: From March 1 through March 15 and from August 1 through August 31 exclusion and relocation activities may take place if it is proven to the City and appropriate regulatory agencies (if any) that egg laying or chick rearing is not taking place. This determination must be made by a qualified biologist."	Prior to Issuance of a Grading Permit	Planning & Engineering Depts.	
44.	The grading plan shall include the following information in the Notes Section of the Grading Plan: "If at any time during excavation/construction of the site, archaeological/cultural resources, or any artifacts or other objects which reasonably appears to be evidence of cultural or archaeological resource are discovered, the property owner shall immediately advise the City of such and the City	Prior to Issuance of a Grading Permit	Planning & Engineering Depts.	

	shall cause all further excavation or other disturbance of the affected area to immediately cease. The Planning Director at his/her sole discretion may require the property owner to deposit a sum of money it deems reasonably necessary to allow the City to consult and/or authorize an independent, fully qualified specialist to inspect the site at no cost to the City, in order to assess the significance of the find. Upon determining that the discovery is not an archaeological/cultural resource, the Planning Director shall notify the property owner of such determination and shall authorize the resumption of work. Upon determining that the discovery is an archaeological/cultural resource, the Planning Director shall notify the property owner that no further excavation or development may take place until a mitigation plan or other corrective measures have been approved by the Planning Director.			
45.	Concurrent with the submittal of grading plans, the applicant shall submit one (1) set of detailed/complete landscape and irrigation construction drawings to the Planning Department prepared by a licensed Landscape Architect including on-site and public right-of-way and a fence/wall plan for review and approval by the Planning Department. Said landscape and irrigation plans shall be prepared by a licensed Landscape Architect and shall comply with all requirements of the City's Landscape Design Standards and Guidelines. The landscape plans shall include the following: a) Landscape plans shall be drawn at a scale of 20 feet equal to 1 foot or larger. b) No light fixture shall be designed for any location in a planting area, which would make it necessary to eliminate a tree. All overhead	Concurrent with the submittal of grading plans	Planning and Landscape Depts.	

	light fixtures and utilities shall be identified on the grading and site plan prior to approval of the grading and site plans. c) All above ground utilities shall be shown on the precise grading plans in their exact locations. Building and landscape backflow prevention units and transformers shall be located in shrub areas. Double detector checks shall be fully screened from view. The detector check/backflow device shall be painted a neutral/earth tone color and any pipes extending above ground shall be finished and painted to match the device. The detector check and post indicator shall be set back at least 10 feet away from the driveway or sidewalk in a shrub area. Transformers shall be screened with 5 feet of landscaping outside the required setback (18 inches on sides and 8 feet at the front doors). d) All ground covers shall be installed from living plant materials. Spacing shall be such that 100% coverage is achieved within 1 year of the installation. e) All parking lot planter areas shall be a minimum of 5 feet wide excluding curbs, walkways and required concrete strip adjacent to parking spaces (6" curb with a 12" wide by 4" deep reinforced concrete strip adjacent). A detail shall be drawn on the civil engineer's plan to illustrate this application in all relevant locations. f) All plants within the detention basin shall be California native. The trees shall include *Quercus agrifolia* (coast live oak) and *Platanus racemosa* (sycamore). The shrubs shall include *Heteromeles arbutifolia* (toyon) or as approved by the City Landscape Architect per the project landscape plans. g) All planting areas damaged during construction shall be replaced at the direction of the City Landscape Architect.			

	h) The irrigation controller shall be a weather-based controller that measures evapo-transpiration. A rain shut-off device is required. Drip irrigation is required in all planting areas. i) All soil amendments and fertilizers shall be organic as a storm-water best management practice. Soil analysis and agronomic soil report shall be submitted to the City with the landscape plans, including the following: soil texture, percentage of organic matter, soil infiltration rate (measured or derived from soil texture/infiltration rate tables), pH and total soluble salts, macro-nutrients, micro-nutrients, recommendations for organic fertilizers and amendments. j) No plant materials that could freeze, damage paving, or have thorns are allowed. k) Prior to construction, the job site superintendent and the landscape contractor shall meet with the City's Landscape Architect and Planning Department representative shall meet for a pre-job meeting. No landscaping shall occur prior to the meeting. l) Erosion control-landscape plans, required for manufactured slopes greater than 3 feet in vertical height, are to be signed by a registered landscape architect and bonded per the requirements of Ordinance 457. m) Planting shall occur within 30 days of meeting final grades to minimize erosion and to ensure slope coverage prior to the rainy season. n) The developer shall plant and irrigate all manufactured slopes steeper than a 4:1 (horizontal to vertical) ratio and 3 feet or greater in vertical height with grass or ground cover; slopes 15 feet or			

	greater in vertical height shall be planted with additional shrubs or trees or as approved by the City Engineer. o) Several buildings have undersized landscape planters. The plant material for these areas will be further evaluated during the review of construction drawings. Carefully select plant material that will naturally grow within the restricted planter widths. Do not propose shrubs that will require continuous trimming to control width or height. p) Water quality basin bottom is typically planted with material from containers, 4" pots, or plugs. Hydroseed is not preferred. This allowance shall be further evaluated with landscape construction drawings.			
46.	The landscape plans shall further include the following items: • Slope planting shall achieve full coverage and consist of permanent ground cover adequately planted with shrubs and/or trees to the satisfaction of the Planning Director. Plant material and mulch shall be suitable for slope conditions and prevention of surface erosion. • Stormwater basin slopes shall be planted with spreading, stabilizing ground covers and shrub groupings from containers. • Stormwater basin bottom shall be planted with species suitable for both wet and dry conditions. Basin bottom shall be planted with the plant material from containers, 4" pots, or plugs. Hydroseed is not preferred, and the allowance shall be further evaluated with landscape construction drawings. • Provide a fuel modification plan in compliance with the Fire Department's requirements. All planting shall be designed using	Prior to Issuance of Grading Permits	Planning and Landscape Depts.	

	approved fire resistive plants, review and modify preliminary plant list to comply. • Fire apparatus access roads shall be illustrated and noted on landscape plan. Trees are to be located so that mature canopies do not encroach into the access road. Remove any tree in conflict with this restriction. • Shift tree canopies out of fire lane - typical review entirety of fire lane in both residential and commercial and adjust tree spacing as needed to be clear of fire lane. • Trees are to be located so that the mature canopies do not encroach into the fire access road clear zone of 28 feet wide and 13.5 feet high. Remove any tree in conflict with this restriction. Preliminary landscape plan to be modified to comply. • If required by the Fire Department, provide a fuel modification plan in compliance with the Fire Department's requirements. • Mature specimen trees in thirty-six inch or forty-eight inch boxes shall be provided for large projects in sufficient quantity to provide variety and emphasis at main focal areas. Quantity and locations are subject to the review and approval of the director. • Perimeter landscape design shall coordinate with surrounding properties. Select street trees to match adjacent existing or approved species. Shrub and ground cover selections are to match or compliment adjacent developments. • Provide enhanced corner planting using specimen trees and accent shrubs that do not conflict with vehicular line of sight. Limit shrubs to a maximum of 30" natural height.			

	• Avoid plants that require cutting back to keep them within a specific area or at a trimmed height. Carefully select and locate plants where they will be allowed to grow to maturity and keep their natural shape. • Plant materials within vehicular line of sight impact areas are to be limited to a maximum of 30" natural height. Impact areas include but are not limited to project entries, drive aisles, and parking lot island planters. • Planting design and materials utilized within any biofiltration, or detention basin areas shall be suitable for both dry and wet conditions and provide slope stabilization where necessary. Planting design and materials are subject to the review and approval of the City's Landscape Architect. Hydroseed is not preferred. • All areas of the project site shall be landscaped. Provide temporary landscape for vacant pad areas, an ornamental low growing native hydroseed mix may be acceptable. • Linear root barriers shall be installed for all trees located within 5 feet of paving and within 10 feet of city sidewalks. • Above ground utilities shall be located in shrub areas and screened as required from public view. • Utilities and light standard locations shall be coordinated with Owner's engineering team to avoid conflicts with required tree locations and utility screening.			

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**

Prior to Issuance of Building Permits				
47.	Prior to the issuance of the 1st building permit, the Applicant shall submit a comprehensive sign program for Planning Department approval. The sign program shall be consistent with all applicable provisions of Section 17.252 (Sign Regulations) of the Wildomar Municipal Code.	Prior to Issuance of Building Permits	Planning Department	
48.	Prior to the issuance of a building permit, the applicant shall comply with Building Department requirements in obtaining all necessary permits to construct said structures, including submittal of plans for all signs to be constructed as part of this project.	Prior to Issuance of a Building Permit	Planning Department	
49.	Prior to issuance of building permits, the Applicant shall submit a detailed/final photometric analysis for review and approval by the Planning and Building departments. The proposed development approved by the Planning Commission shall comply with the standards and requirements of the City's Light Pollution Ordinance in accordance with Chapter 8.64 of the Wildomar Municipal Code.	Prior to Issuance of Building Permits	Planning Department	
50.	Prior to the issuance of the building permits, the applicant shall pay all applicable and current Development Impact Fees and City Mitigation Fees as determined by the Building and Engineering departments, including but not limited to, regional fees such TUMF, MSHCP, K-Rat fees, School Fees, etc. in accordance with the timing outlined in Title 3 of the WMC.	Prior to Issuance of Building Permits	Planning & Building Departments	
51.	Prior to the issuance of the building permits, the applicant shall submit for review and approval by the Planning Department a final exterior lighting/security lighting plan/photometric survey. Said lighting plan	Prior to Issuance of Building Permits	Planning & Building Departments	

	shall comply with all applicable provisions of Section 8.64 (Light Pollution Ordinance) of the WMC.			
Prior to Issuance of a Certificate of Occupancy				
52.	Prior to the issuance of occupancy permits, the following conditions shall be satisfied: • Prior to occupancy permits for each planning area, the landscape improvements outlined above shall be completed. • Performance securities, in the amount determined by the City Landscape Architect and Planning Director, shall be provided to guarantee the adequate maintenance of the landscaping materials and irrigation system in accordance with the approved plans for a period of one (1) year from the date of final clearance of the installed landscaping by the City. Acceptable forms of security shall be limited to cash deposit, cash bonds, or irrevocable letters of credit. The performance securities shall be released one (1) year after final clearance of the installed landscaping by the City, upon written request by the owner, if the landscaping has been adequately maintained in accordance with the approved landscape plans. A deposit to cover re-inspection of the landscape, at the current City rate shall be posted with the Planning Department prior to re-inspection for maintenance bond release. • The project landscape contractor shall provide the City with the Landscape Installation Certification of Completion stating that the landscaping was installed per the approved plans. The City will review the Certificate and conduct inspections to ensure that the landscape installation is in compliance with the approved landscape plans.	Prior to the Issuance of Occupancy Permits	Planning Dept.	

53.	Prior to the issuance of the final Certificate of Occupancy permit, all required onsite landscape planting and irrigation improvements for the planning area shall have been installed and fully operational consistent with the approved construction plans. The plants shall be healthy and free of weeds, disease, or pests. The irrigation system shall be properly constructed and in good working order. The Applicant shall contact the Planning Department to schedule the final inspection(s).	Prior to the Issuance of Occupancy Permits	Planning Dept.	
54.	Prior to the Issuance of the final Certificate of Occupancy permit, all Planning Department conditions listed herein shall be completed to the satisfaction of the Planning Department.	Prior to final Certificate of Occupancy	Planning Dept.	
55.	Prior to the Issuance of the final Certificate of Occupancy permit, all Riverside County Fire Department conditions shall be complied with and cleared by the Fire Department. The Applicant shall provide written verification from County Fire that all applicable conditions have been met.	Prior to final Certificate of Occupancy	Planning Dept.	
Project Specific CUP Conditions for Alcohol Sales at the Grocery Store				
56.	Prior to an employee selling alcohol from the grocery store, the store owner shall ensure that employees have received Licensee Education on Alcohol and Drugs (L.E.AD.) training from the California Department of Alcoholic Beverage Control.	On-Going	Planning Department	
57.	Prior to the issuance of occupancy permits for the grocery store, the store owner shall obtain a Type 20 License from the State Department of Alcohol Beverage Control (ABC). A copy of said license shall be submitted to the Planning Department prior to occupancy of the building.	Prior to the issuance of occupancy permits	Planning Department	

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**

Project Specific Plot Plan/FSPOD No. 21-0145 Conditions (Applicable to Residential Apartment Site)				
Prior to the Issuance of Grading Permits				
58.	Prior to the issuance of any grading permit, the Project applicant shall comply with all of the provisions of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), including payment of the MSHCP Local Development Mitigation Fee and Best Management Practices (specifically Appendix C, Standard Best Management Practices, of the MSHCP).	Prior to Issuance of Grading Permits	Planning Department	
59.	Prior to the issuance of the 1st grading permit on the property, the applicant shall submit a haul permit for any import of material to the site or export of material off-site for review and approval by the City Engineer and Planning Director. The request for a haul permit shall include a haul route plan addressing the limitations of haul hours, number of loads per day and the posting of traffic control personnel at all approved entrances/exits onto public roads. This haul permit shall be in place prior to the issuance of the grading permit and the mobilization of equipment on the project site. If the proposed material source or disposal site does not have an approved environmental assessment, a grading environmental assessment shall be submitted for review and approval by the Planning Director prior to the issuance of the haul permit.	Prior to Issuance of a Grading Permit	Planning & Engineering Depts.	
60.	The grading plan shall include the following information in the Notes Section of the Grading Plan: "No grubbing/clearing of the site shall occur prior to scheduling the pre-grading meeting with Engineering. All project sites containing suitable habitat for burrowing owls, whether owls were found or not, require a 30-day preconstruction survey that shall be conducted within 30 days	Prior to Issuance of a Grading Permit	Planning & Engineering Depts.	

	prior to ground disturbance to avoid direct take of burrowing owls. If the results of the survey indicate that no burrowing owls are present on-site, then the project may move forward with grading, upon Planning Department approval. If burrowing owls are found to be present or nesting on-site during the preconstruction survey, then the following recommendations must be adhered to: Exclusion and relocation activities may not occur during the breeding season, which is defined as March 1 through August 31, with the following exception: From March 1 through March 15 and from August 1 through August 31 exclusion and relocation activities may take place if it is proven to the City and appropriate regulatory agencies (if any) that egg laying or chick rearing is not taking place. This determination must be made by a qualified biologist."			
61.	The grading plan shall include the following information in the Notes Section of the Grading Plan: "If at any time during excavation/construction of the site, archaeological/cultural resources, or any artifacts or other objects which reasonably appears to be evidence of cultural or archaeological resource are discovered, the property owner shall immediately advise the City of such and the City shall cause all further excavation or other disturbance of the affected area to immediately cease. The Planning Director at his/her sole discretion may require the property owner to deposit a sum of money it deems reasonably necessary to allow the City to consult and/or authorize an independent, fully qualified specialist to inspect the site at no cost to the City, in order to assess the significance of the find. Upon determining that the discovery is not an archaeological/cultural resource, the Planning Director shall notify the property owner of such determination and shall authorize the resumption of work. Upon	Prior to Issuance of a Grading Permit	Planning & Engineering Depts.	

	determining that the discovery is an archaeological/cultural resource, the Planning Director shall notify the property owner that no further excavation or development may take place until a mitigation plan or other corrective measures have been approved by the Planning Director.			
62.	Concurrent with the submittal of grading plans, the applicant shall submit one (1) set of detailed/complete landscape and irrigation construction drawings to the Planning Department prepared by a licensed Landscape Architect including on-site and public right-of-way and a fence/wall plan for review and approval by the Planning Department. Said landscape and irrigation plans shall be prepared by a licensed Landscape Architect and shall comply with all requirements of the City's Landscape Design Standards and Guidelines. The landscape plans shall include the following: a) Landscape plans shall be drawn at a scale of 20 feet equal to 1 foot or larger. b) No light fixture shall be designed for any location in a planting area, which would make it necessary to eliminate a tree. All overhead light fixtures and utilities shall be identified on the grading and site plan prior to approval of the grading and site plans. c) All above ground utilities shall be shown on the precise grading plans in their exact locations. Building and landscape backflow prevention units and transformers shall be located in shrub areas. Double detector checks shall be fully screened from view. The detector check/backflow device shall be painted a neutral/earth tone color and any pipes extending above ground shall be finished and painted to match the device. The detector check and post indicator shall be set back at least 10 feet away from the driveway or sidewalk	Concurrent with the submittal of grading plans	Planning and Landscape Depts.	

	in a shrub area. Transformers shall be screened with 5 feet of landscaping outside the required setback (18 inches on sides and 8 feet at the front doors). d) All ground covers shall be installed from living plant materials. Spacing shall be such that 100% coverage is achieved within 1 year of the installation. e) All parking lot planter areas shall be a minimum of 5 feet wide excluding curbs, walkways and required concrete strip adjacent to parking spaces (6" curb with a 12" wide by 4" deep reinforced concrete strip adjacent). A detail shall be drawn on the civil engineer's plan to illustrate this application in all relevant locations. f) All plants within the detention basin shall be California native. The trees shall include *Quercus agrifolia* (coast live oak) and *Platanus racemosa* (sycamore). The shrubs shall include *Heteromeles arbutifolia* (toyon) or as approved by the City Landscape Architect per the project landscape plans. g) All planting areas damaged during construction shall be replaced at the direction of the City Landscape Architect. h) The irrigation controller shall be a weather-based controller that measures evapo-transpiration. A rain shut-off device is required. Drip irrigation is required in all planting areas. i) All soil amendments and fertilizers shall be organic as a storm-water best management practice. Soil analysis and agronomic soil report shall be submitted to the City with the landscape plans, including the following: soil texture, percentage of organic matter, soil infiltration rate (measured or derived from soil texture/infiltration rate tables), pH and total soluble salts, macro-			

	nutrients, micro-nutrients, recommendations for organic fertilizers and amendments. j) No plant materials that could freeze, damage paving, or have thorns are allowed. k) Prior to construction, the job site superintendent and the landscape contractor shall meet with the City's Landscape Architect and Planning Department representative shall meet for a pre-job meeting. No landscaping shall occur prior to the meeting. l) Erosion control-landscape plans, required for manufactured slopes greater than 3 feet in vertical height, are to be signed by a registered landscape architect and bonded per the requirements of Ordinance 457. m) Planting shall occur within 30 days of meeting final grades to minimize erosion and to ensure slope coverage prior to the rainy season. n) The developer shall plant and irrigate all manufactured slopes steeper than a 4:1 (horizontal to vertical) ratio and 3 feet or greater in vertical height with grass or ground cover; slopes 15 feet or greater in vertical height shall be planted with additional shrubs or trees or as approved by the City Engineer. o) Several buildings have undersized landscape planters. The plant material for these areas will be further evaluated during the review of construction drawings. Carefully select plant material that will naturally grow within the restricted planter widths. Do not propose shrubs that will require continuous trimming to control width or height.			

	Water quality basin bottom is typically planted with material from containers, 4" pots, or plugs. Hydroseed is not preferred. This allowance shall be further evaluated with landscape construction drawings.			
63.	The landscape plans shall further include the following items: • Slope planting shall achieve full coverage and consist of permanent ground cover adequately planted with shrubs and/or trees to the satisfaction of the Planning Director. Plant material and mulch shall be suitable for slope conditions and prevention of surface erosion. • Stormwater basin slopes shall be planted with spreading, stabilizing ground covers and shrub groupings from containers. • Stormwater basin bottom shall be planted with species suitable for both wet and dry conditions. Basin bottom shall be planted with the plant material from containers, 4" pots, or plugs. Hydroseed is not preferred, and the allowance shall be further evaluated with landscape construction drawings. • Provide a fuel modification plan in compliance with the Fire Department's requirements. All planting shall be designed using approved fire resistive plants, review and modify preliminary plant list to comply. • Fire apparatus access roads shall be illustrated and noted on landscape plan. Trees are to be located so that mature canopies do not encroach into the access road. Remove any tree in conflict with this restriction. • Shift tree canopies out of fire lane - typical review entirety of fire lane in both residential and commercial and adjust tree spacing as needed to be clear of fire lane.	Prior to Issuance of Grading Permits	Planning and Landscape Depts.	

	• Trees are to be located so that the mature canopies do not encroach into the fire access road clear zone of 28 feet wide and 13.5 feet high. Remove any tree in conflict with this restriction. Preliminary landscape plan to be modified to comply. • If required by the Fire Department, provide a fuel modification plan in compliance with the Fire Department's requirements. • Mature specimen trees in thirty-six inch or forty-eight inch boxes shall be provided for large projects in sufficient quantity to provide variety and emphasis at main focal areas. Quantity and locations are subject to the review and approval of the director. • Perimeter landscape design shall coordinate with surrounding properties. Select street trees to match adjacent existing or approved species. Shrub and ground cover selections are to match or compliment adjacent developments. • Provide enhanced corner planting using specimen trees and accent shrubs that do not conflict with vehicular line of sight. Limit shrubs to a maximum of 30" natural height. • Avoid plants that require cutting back to keep them within a specific area or at a trimmed height. Carefully select and locate plants where they will be allowed to grow to maturity and keep their natural shape. • Plant materials within vehicular line of sight impact areas are to be limited to a maximum of 30" natural height. Impact areas include but are not limited to project entries, drive aisles, and parking lot island planters. • Planting design and materials utilized within any biofiltration, or detention basin areas shall be suitable for both dry and wet conditions and provide slope stabilization where necessary.			

	Planting design and materials are subject to the review and approval of the City's Landscape Architect. Hydroseed is not preferred. • All areas of the project site shall be landscaped. Provide temporary landscape for vacant pad areas, an ornamental low growing native hydroseed mix may be acceptable. • Linear root barriers shall be installed for all trees located within 5 feet of paving and within 10 feet of city sidewalks. • Above ground utilities shall be located in shrub areas and screened as required from public view. • Utilities and light standard locations shall be coordinated with Owner's engineering team to avoid conflicts with required tree locations and utility screening.			
Prior to Issuance of Building Permits				
64.	Prior to the issuance of the 1st building permit, the Applicant shall submit a comprehensive sign program for Planning Department approval. The sign program shall be consistent with all applicable provisions of Section 17.252 (Sign Regulations) of the Wildomar Municipal Code.	Prior to Issuance of Building Permits	Planning Department	
65.	Prior to the issuance of a building permit, the applicant shall comply with Building Department requirements in obtaining all necessary permits to construct said structures, including submittal of plans for all signs to be constructed as part of this project.	Prior to Issuance of a Building Permit	Planning Department	
66.	Prior to issuance of building permits, the Applicant shall submit a detailed/final photometric analysis for review and approval by the Planning and Building departments. The proposed development approved by the Planning Commission shall comply with the standards	Prior to Issuance of Building Permits	Planning Department	

	and requirements of the City's Light Pollution Ordinance in accordance with Chapter 8.64 of the Wildomar Municipal Code.			
67.	Prior to the issuance of the building permits, the applicant shall pay all applicable and current Development Impact Fees and City Mitigation Fees as determined by the Building and Engineering departments, including but not limited to, regional fees such TUMF, MSHCP, K-Rat fees, School Fees, etc. in accordance with the timing outlined in Title 3 of the WMC.	Prior to Issuance of Building Permits	Planning & Building Departments	
68.	Prior to the issuance of the building permits, the applicant shall submit for review and approval by the Planning Department a final exterior lighting/security lighting plan/photometric survey. Said lighting plan shall comply with all applicable provisions of Section 8.64 (Light Pollution Ordinance) of the WMC.	Prior to Issuance of Building Permits	Planning & Building Departments	
Prior to Issuance of a Certificate of Occupancy				
69.	Prior to the issuance of occupancy permits, the following conditions shall be satisfied: • Performance securities, in the amount determined by the City Landscape Architect and Planning Director, shall be provided to guarantee the adequate maintenance of the landscaping materials and irrigation system in accordance with the approved plans for a period of one (1) year from the date of final clearance of the installed landscaping by the City. Acceptable forms of security shall be limited to cash deposit, cash bonds, or irrevocable letters of credit. The performance securities shall be released one (1) year after final clearance of the installed landscaping by the City, upon written request by the owner, if the landscaping has been adequately maintained in accordance with the approved landscape plans. A	Prior to the Issuance of Occupancy Permits	Planning Dept.	

	deposit to cover re-inspection of the landscape, at the current City rate shall be posted with the Planning Department prior to re-inspection for maintenance bond release. The project landscape contractor shall provide the City with the Landscape Installation Certification of Completion stating that the landscaping was installed per the approved plans. The City will review the Certificate and conduct inspections to ensure that the landscape installation is in compliance with the approved landscape plans.			
70.	Prior to the issuance of the final Certificate of Occupancy permit, all required onsite landscape planting and irrigation improvements for the planning area shall have been installed and fully operational consistent with the approved construction plans. The plants shall be healthy and free of weeds, disease, or pests. The irrigation system shall be properly constructed and in good working order. The Applicant shall contact the Planning Department to schedule the final inspection(s).	Prior to the Issuance of Occupancy Permits	Planning Dept.	
71.	Prior to the Issuance of the final Certificate of Occupancy permit, all Planning Department conditions listed herein shall be completed to the satisfaction of the Planning Department.	Prior to final Certificate of Occupancy	Planning Dept.	
72.	Prior to the Issuance of the final Certificate of Occupancy permit, all Riverside County Fire Department conditions shall be complied with and cleared by the Fire Department. The Applicant shall provide written verification from County Fire that all applicable conditions have been met.	Prior to final Certificate of Occupancy	Planning Dept.	
PUBLIC WORKS/ENGINEERING/BUILDING DEPARTMENT CONDITIONS				
General Requirements/Conditions				

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
1. The developer shall obtain City approval for any modifications or revisions to the approval of this project in accordance with State law (Gov. Code 65913.4). Deviations not identified on the plans may not be approved by the City, potentially resulting in the need for the project to be redesigned. Amended entitlement approvals may be necessary as a result.	On-Going	Engineering	
2. The developer shall comply with the State of California Subdivision Map Act and all City ordinances and resolutions.	On-Going	Engineering	
3. No grading shall be performed without the prior issuance of a grading permit by the City.	On-Going	Engineering	
4. Written permission shall be obtained from the affected property owners allowing the proposed grading and/or facilities to be installed outside of the project boundaries.	On-Going	Engineering	
5. All grading shall conform to the California Building Code, including Appendix J, and all other relevant and applicable laws, rules, and regulations governing grading in the City of Wildomar. Prior to commencing any grading which includes 50 or more cubic yards, the developer shall obtain a grading permit from PW/Engineering.	On-Going	Engineering	
6. All necessary measures to control dust shall be implemented by the developer during grading to the satisfaction of the City Engineer. A PM10 plan may be required at the time a grading permit is issued.	On-Going	Engineering	
7. Graded slopes shall be limited to a maximum steepness ratio of 2:1 (horizontal to vertical) unless otherwise approved by the City Engineer.	On-Going	Engineering	
8. Grading in excess of 199 cubic yards will require performance security to be posted with the City.	On-Going	Engineering	

9.	All retaining walls shall require a separate permit from the Building Department. The retaining wall calculations shall address earth and hydrostatic loads associated with the water basins. The footings along the westerly property line must be designed in a manner that additional loads are not placed on the existing structure to the west.	On-Going	Engineering	
10.	The developer/owner or contractor shall apply for an Encroachment Permit for work performed within the public right of way. Compliance with current environmental regulations applies and additional studies and/or permits may be required to the extent applicable under State law (Gov. Code 65913.4).	On-Going	Public Works	
11.	The developer's contractor is required to submit for a haul route permit for the hauling of material to and from the project site. Said permit will include limitations of haul hours, number of loads per day and the posting of traffic control personnel at all approved entrances/exits onto public roads. Hauled material shall be to/from an environmentally approved site.	On-Going	Public Works	
12.	Storm water and non-storm water discharges from the project site shall be mitigated in conformance with the Regional Water Quality Control Board permit(s) and/or site specific SWPPP prior to entering into the MS4s including, but not limited to, storm drains, streets, channels, etc.	On-Going	Engineering	
13.	For commercial/industrial projects, the developer/applicant shall submit a Business Registration application to the City for approval. The business shall be required to pay a fee to the City with the Business Registration for Stormwater Compliance Inspections that are required by the City's NPDES Permit. The requirement for stormwater compliance inspections is recurring for the duration of the development, unless otherwise approved. The developer/applicant shall also submit	On-Going	Engineering	

	to the City, prior to Certificate of Occupancy, a document that includes the Business' Statement of Operations and a summary of the business' best management practices for stormwater pollution prevention.			
14.	The developer/applicant shall provide all tenants/employees/homeowners with educational materials regarding Best Management Practices for Stormwater Pollution Prevention. Educational materials are available on the Riverside County Flood Control and Water Conservation District's website.	On-Going	Engineering	
15.	The developer/owner/tenant shall comply with all applicable laws and regulations regarding the proper disposal of waste materials generated from the business.	On-Going	Engineering	
16.	The Developer shall dedicate, design and construct all improvements in accordance with the City of Wildomar Road Improvement Standards & Specification, Improvement Plan Check Policies and Guidelines, as further conditioned herein and to the satisfaction of the City Engineer. In the absence of a subdivision map, rights-of-way and easements shall be dedicated by separate instrument.	On-Going	Engineering	
17.	Erosion control – landscape plans, required for manufactured slopes greater than 3 feet in vertical height, are to be signed by a registered landscape architect and bonded. The soils engineer shall review the erosion control plans for conformance with the Geotechnical Report's Findings and Recommendations. Erosion control shall be placed within 30 days of meeting final grades to minimize erosion and to ensure slope coverage prior to the rainy season. The Developer shall plant & irrigate all manufactured slopes steeper than a 4:1 (horizontal to vertical) ratio and 3 feet or greater in vertical height with soil stabilizers and ground cover; slopes 15 feet or greater in vertical height shall be planted with	On-Going	Engineering	

	additional shrubs or trees or as approved by the City Engineer and City Planner. Protection of Rough graded slopes will be based on the approved BMP's as depicted in the approved Storm Water Pollution Prevention Plan.			
18.	The landscape plans of all parkway and Landscape Maintenance/ Community Facilities District (CFD) lots shall be prepared by a licensed Landscape Architect and shall be submitted to the City for review and approval.	On-Going	Engineering	
19.	Should this project lie within any assessment/benefit district, the project proponent shall, prior to acceptance of improvements, make application for and pay for their reapportionment of the assessments or pay the unit fees in the benefit district unless said fees are otherwise deferred or covered under the City's Community Facility District (CFD Services).	On-Going	Engineering	
20.	The developer shall annex into the City's Community Facility District (CFD Services) and pay associated costs for annexation. Should this project lie within any assessment/benefit district that duplicates the services to be covered under CFD Services then the developer shall de-annex from said assessment/benefit district.	Prior to First Building permit issuance	Engineering	
21.	The developer shall design and construct all driveways in accordance with the applicable City of Wildomar Improvement Standards.	On-Going	Engineering	
22.	The improvement plans for the required public improvements must be prepared and shall be based upon a design profile extending a minimum of 300 feet beyond the project boundaries at a grade and alignment as approved by the City Engineer.	On-Going	Engineering	
23.	Above-ground utilities shall be undergrounded by the developer in accordance with City of Wildomar Municipal Code 16.04.010. The	On-Going	Engineering	

	undergrounding of utilities shall be reflected on the project improvement plans. A non-interference letter from Southern California Edison (SCE), shall be submitted for the proposed development.			
24.	Improvement Plans for underground utilities (eg. Water, sewer, electrical, telecommunications, etc.) to be placed in public right of way or easement that will be owned and maintained by other entities shall be reviewed by the City. The City shall have a place on the Title Sheet to accept the plans with a statement "The city's acceptance is limited to the placement of utilities relative to public infrastructure clearances, uses and future plans within the right of way." The plans shall be attached to a city Encroachment Permit.	On-Going	Engineering	
25.	All flood control plans to be reviewed by the City or the Riverside County Flood Control District (RCFCD) shall be submitted through the City of Wildomar, unless otherwise directed by the City Engineer. For projects requiring RCFCD review the developer shall pay the appropriate fees to RCFCD.	On-Going	Engineering	
26.	Prior to approval of improvement plans, the improvement plans shall show all the streets to be improved consistent with Condition 61. At the discretion of the applicant, the existing pavement may be cored to confirm adequate section and R values during the design process and any findings shall be incorporated into the project design. Therefore, improvements may include full pavement reconstruction, grind and overlay, or slurry seal. All striping shall be replaced in kind.	Prior to Improvement Plan Approval	Engineering	
27.	Prior to improvement plans approval, the applicant shall ensure that all water meters, fire hydrants or other water appurtenances shall not be located within a drive aisle or path of travel.	Prior to Improvement Plan Approval	Engineering	

28.	Clinton Keith Road is currently paved to its ultimate as a Primary Arterial 6-lane (128' ROW), however, the project may submit an in-lieu fee for the portion lying along its project frontage, in coordination with the percentage identified in the approved Traffic Impact Analysis and associated MND. Catt Road plans shall be submitted and approved for construction to its ultimate classification as a Local Road. The plans shall include construction of applicable curb, gutter and sidewalk improvements along its frontage. The ultimate modified design shall be coordinated with the City Engineering Division and subject to the satisfaction of the City Engineer. Arya Road plans shall be submitted and approved for construction to its ultimate classification as a Local Road, and as identified to support the proposed project per the approved TIA and subject to the satisfaction of the City Engineer. The project shall submit plans to construct Wildomar Trail along its project frontage, at its ultimate half-section width classification as a Collector (74-foot right-of-way) in compliance with applicable City of Wildomar and Caltrans standards. Plans shall be approved subject to the satisfaction of the City Engineer. Wildomar Trl/Clinton Keith Rd: Plans shall be submitted and approved for Construction of improvements as per approved CIP at this intersection. Improvements include the addition of WBT receiving lane at project frontage and the modification of WBR to WBTR. Signal modifications include changing SBL and NBL signal permissive phasing to protected permissive and overlapping SBR. In the event the	Prior to Improvement Plan Approval	Engineering	

	CIP improvements are constructed before the project is constructed, the project would contribute fair-share to improvements at this intersection, as identified in the approved TIA. Plans shall be coordinated with the CIP and shall be subject to the satisfaction of the City Engineer. Inland Valley Dr/Clinton Keith Rd: Project would calculate and contribute fair-share to the CIP at this intersection which improves the intersection to a 4-lane intersection. Improvements include addition of WBT lane and EBT receiving lane. The fair-share shall be calculated to the satisfaction of the City Engineer. Palomar Rd/Clinton Keith Rd: Project would calculate and contribute a fair-share to intersection improvements as per approved CIP at this intersection. Improvements as per CIP include addition of 2nd EBL, modification of EBR to EBTR. Modification of WBT to WBTR. Modification on NBTR to NBT, addition of NBR and addition of 2nd SBL. The project's fair-share contributions would be limited to the 2nd SBL improvement on Clinton Keith Rd which would include widening the road to shift the SBR further northwest along with any associated improvements or costs necessary to accomplish such improvement consistent with the approved TIA and subject to the satisfaction of the City Engineer. Arya Rd/Clinton Keith Rd: Plans shall be submitted and approved for construction of improvements or provide fair-share contribution as identified in the approved TIA and subject to the satisfaction of the City Engineer. Improvements include northbound striping to provide dedicated NBL and NBTR, dedicated SBL and SBTR. Signal			

	modifications include changing NB-SB permissive phasing to protective permissive phasing along with associated improvements necessary to accomplish the lane configuration, road widening and signal operation discussed above. These improvements would include widening of Arya Rd to 4 lanes. Wildomar Trl/Proj Dwy 4: Plans shall be submitted and approved for construction of improvements as a project design feature to add Two Stage Gap Acceptance for EBL approach from Project Dwy consistent with the striping concept included in the approved TIA and subject to the satisfaction of the City Engineer. Sight distance at each project access point shall be reviewed with respect to standard Caltrans and City of Wildomar sight distance standards at the time of preparation of final grading, landscape, and street improvement plans. On-site traffic signing and striping plan shall be submitted and approvedin conjunction with detailed construction plans for the project site subject to the satisfaction of the City Engineer. All public improvement plans shall include adequate transitions beyond the project boundary to 300', at the discretion of the City Engineer. Project applicant shall pay all fair-share contributions and provide plans for approval necessary to implement all improvements as discussed in the approved TIA subject to the satisfaction of the City Engineer.			
Prior to the Issuance of Grading Permits				

29.	The developer shall submit a geotechnical/soils reports to the City Engineer for review and approval prior to issuance of grading permit. The findings and recommendations shall reflect current conditions and the report shall be no older than one (1) year. All grading shall be in conformance with the recommendations of the geotechnical/soils reports as approved by City of Wildomar.	Prior to Issuance of a Grading Permit	Engineering	
30.	The developer shall obtain any and all easements and/or permissions necessary to perform the grading required for the project. A notarized letter of permission from all affected property owners or easement holders, or encroachment permit, is required for all off-site grading.	Prior to Issuance of a Grading Permit	Engineering	
31.	Prior to the issuance of a grading permit the developer shall submit recorded slope easements or written letters of permission from adjacent landowners in all areas where grading is proposed to take place outside of the project boundaries.	Prior to Issuance of a Grading Permit	Engineering	
32.	The project specific SWPPP and an Erosion/Sediment Control plan shall be provided to the Public Works Dept. and always provided on the project site.	Prior to Issuance of a Grading Permit	Engineering	
33.	The Developer shall provide the Engineering Department evidence of compliance with the National Pollutant Discharge Elimination System (NPDES); obtain a construction permit from the State Water Resource Control Board (SWRRCB); and, reference the WDID number on the improvement/grading.	Prior to Issuance of a Grading Permit	Engineering	
34.	The developer shall have obtained approval for the import/export location from the City of Wildomar. Additionally, if either location was not previously approved by an Environmental Assessment, prior to issuing a grading permit, a Grading Environmental Assessment shall	Prior to Issuance of a Grading Permit	Engineering	

	be submitted to the Planning Director for review and comment and to the City Engineer for approval.			
35.	A Final Water Quality Management Plan (WQMP), in conformance with the requirements of the City of Wildomar (City) shall be prepared, submitted, and approved. All stormwater quality treatment devices shall be located outside of the ultimate public right of way, unless otherwise approved. The developer shall prepare the Final WQMP in conformance with the City of Wildomar WQMP (which is based on the SMR Model WQMP) to the satisfaction of the City Engineer. The WQMP shall also address the effects of hydromodification caused by the project, per the City of Wildomar WQMP Model Document. Due to the high-density residential land-use of this project, the WQMP shall include the installation of Trash Capture Devices for both private and public storm drain facilities, as required by the State Water Board's Trash Amendments and the subsequent order issued by the San Diego Regional Water Quality Control Board to the City. Trash Capture Devices shall be on the State Water Board's "Certified Trash Full Capture Systems List of Trash Treatment Control Devices". Trash Control Devices selected for use in City storm drains shall be approved by the City Engineer. Trash Control Devices installed in City storm drains shall be included in the Community Facilities District (CFD) for maintenance.	Prior to Issuance of a Grading Permit	Engineering	
36.	A Grading Agreement and a Storm Water Management Facilities Agreement shall be approved by the City Engineer and/or City Council.	Prior to Issuance of a Grading Permit	Engineering	
37.	The developer shall prepare and submit a comprehensive drainage study and plan that includes, but is not limited to: definition with mapping of the existing watersheds; a detailed pre- and post-project	Prior to Issuance of a Grading Permit	Engineering	

	hydrologic and hydraulic analysis of the project and project impacts; definition of the local controlling 100-year frequency water levels existing and with project; the proposed method of flow conveyance to mitigate the potential project impacts with adequate supporting calculations; any proposed improvements to mitigate the impacts of increased runoff from the project and any change in runoff; including quality, quantity, volume, and duration in accordance with City of Wildomar's Hydrology Manual, Improvement Standards, and to the satisfaction of the City Engineer. Specifically, the study will: a. Analyze the detention basin drainage area for a project using the Rational Method 100-year storm event for the pre-project and post-project. b. Analyze 4 hydrographs for the detention basin drainage area for a project using the Unit Hydrograph 100-year storm event for the 1-hour, 3-hour, 6-hour, and 24-hour storm durations for post-project condition. c. Using the Unit Hydrographs determine which duration provides the highest flow rate. Adjust parameters such as lag time, flow line roughness coefficient or other parameters to calibrate Unit Hydrograph model to provide results similar to the Rational Method. d. Using the calibrated Unit Hydrograph for the detention basin drainage area perform basin routing analysis to demonstrate that the outflow is less than the pre-project Rational Method flow rate.			

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
38. Prior to approval of improvement plans, the improvement plans submitted by the applicant shall address the following: a) The project drainage design shall be designed to accept and properly convey all on- and off-site drainage flowing on or through the site. b) The project drainage system design shall protect downstream properties from any damage caused by alteration of drainage patterns such as concentration or diversion of flow. c) Concentrated drainage on commercial lots shall be diverted through parkway drains under sidewalks. All non-residential lots shall drain toward an approved water quality or drainage facility. Once onsite drainage has been treated it may continue into an approved public drainage facility or diverted through under-sidewalk parkway drains.	Prior to Issuance of a Grading Permit	Engineering	

39.	Prior to issuance of any grading permit, any environmental Phase I and Phase II applicable findings and recommended actions to remove contamination resulting from previous use of the subject site shall be implemented.	Prior to Issuance of a Grading Permit	Engineering	
40.	The Construction Runoff Management Plan (or Erosion/Sediment Control Plan) shall include enhanced BMPs, for installation of landscaping to minimize the potential runoff of nutrients which is the Priority Water Quality Condition of Concern in the Santa Margarita River Watershed, to the satisfaction of the City Engineer.	Prior to Issuance of a Grading Permit	Engineering	
41.	City storm drain outfalls that will discharge to a Receiving Water, as defined by the City's MS4 Permit, shall be separate from and shall not receive flows from any private storm drain system.	Prior to Issuance of a Grading Permit	Engineering	
42.	The developer shall show all easements per the Title Report to the satisfaction of Public Works. Any conflict with existing easements resulting in the site being redesigned potentially requires a minor change or amendment approval by Planning Commission.	Prior to Issuance of a Grading Permit	Engineering	
43.	Prior to issuance of grading permit, the applicant shall demonstrate to the satisfaction of the City Engineer that the proposed project will not unreasonably interfere with the use of any easement holder of the property.	Prior to Issuance of a Grading Permit	Engineering	
Prior to Issuance of Building Permits				
44.	The developer/owner shall obtain a grading permit prior to building permit issuance, and/or approval to construct from the City Engineer.	Prior to Issuance of a Building Permit	Building/ Engineering	

45.	Any public improvements shall be approved by the City Engineer and all improvements to be constructed and shall be secured by the Developer.	Prior to Issuance of a Building Permit	Building/ Engineering	
46.	The developer shall provide will serve letters from the appropriate utility agencies.	Prior to Issuance of a Building Permit	Building	
47.	The developer shall provide approval letter from Fire Department for fire water service.	Prior to Issuance of a Building Permit	Building/ Fire	
48.	The developer shall install any missing streetlight facilities along the project frontage, in accordance with the applicable City of Wildomar Road Improvement Standards & Specification, Improvement Plan Check Policies and Guidelines, City Ordinances and to the satisfaction of the City Engineer.	Prior to Certificate of Occupancy	Building/ Public Works	
49.	The developer shall annex into CFD Service District 2022-2, or current equivalent Community Facilities District, to offset development related costs for maintenance and services for the applicable development.	Prior to Issuance of a Building Permit	Engineering	
50.	The developer/applicant shall demonstrate that all applicable development related fees, impact fees, and mitigation fees have been satisfactorily paid.	Prior to Issuance of a Building Permit or Certificate of Occupancy	Building	
51.	The developer shall pay the appropriate impact mitigation fee to the Riverside County Flood Control and Water Conservation District and provide the City receipt of payment.	Prior to Issuance of a Building Permit	Building	
52.	The developer shall pay all necessary impact and mitigation fees required to the extent applicable. These fees include, but are not limited to, fees associated with),Quimby (parkland in-lieu) Fee, and City	Prior to Issuance of a Building Permit or	Building	

	Development Impact Fees. Pursuant to Exhibit E, Section G of the Administrative Plan, low-income residential housing is exempt from the payment of TUMF.	Certificate of Occupancy		
53.	The developer shall construct the stormwater quality treatment devices to accommodate all project runoff in accordance with City of Wildomar's Hydrology Manual, Stormwater Quality Best Management Practice Design Handbook, Improvement Standards, and to the satisfaction of the City Engineer. All stormwater quality treatment devices shall be constructed outside of the ultimate public right of way.	Prior to Issuance of a Building Permit	Public Works	
54.	Prior to issuance of Building Permit, the developer shall post security guaranteeing the construction of all required public improvements consistent with the approved TIA. Said improvements shall include, but are not limited to the following: 1. All street facilities: 2. Any missing or substandard public improvements on Wildomar Trail and Catt Road, to half street plus 12' along the project frontage. 3. Traffic Mitigation measures as outlined in approved Traffic Impact Analysis dated, August 10, 2022. 4. All ingress and egress shall meet minimum commercial driveway standards. 5. Southernmost site access on Wildomar Trail indicated on the site plan and "DWY 3" indicated on the TIA shall be limited to right in, right out, access only. Site access on Catt Road shall be coordinated with adjacent developments, City of Wildomar Traffic Engineering, and the City Engineer.	Prior to Issuance of a Building Permit	Engineering	

	b) All drainage facilities to serve the proposed, and as outlined in the approved Hydrology Study. c) All required grading, including erosion control. Additional erosion control may be required per the City Engineer d) All required sewer, water and reclaimed water facilities per Elsinore Valley Municipal Water District (EVMWD) standards and specifications, per approved plans. e) All required landscaping and/or park facilities on-site, as well as parkway landscaping per approved streetscape plans and design guidelines. f) All under grounding of overhead utilities, except for cables greater than 32k volts, per Wildomar Municipal Code			
55.	Prior to building permit issuance, the applicant shall commence construction or guarantee the construction of all new or upgraded required public improvements including but not limited to, the potable water line, sewer line, reclaimed water line, potable water services, sewer laterals, reclaimed water services, double detector check assemblies and reduced pressure principal assemblies within the public right of way and/or easements.	Prior to Issuance of a Building Permit	Engineering	
56.	Prior to issuance of building permits, the developer shall cause the civil engineer of record and soils engineer of record for the approved grading plans to submit pad certifications and compaction test reports for the subject lots where building permits are requested.	Prior to Issuance of Building Permits	Engineering	

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**
Prior to Certificate of Occupancy, Final Inspection or Surety Release			
57. Prior to issuance of the first Certificate of Occupancy, the applicant shall provide proof of notification to the future occupants of all non-structural BMPs and educational and training requirements for said BMPs as directed in the approved WQMP.	Prior to Issuance of first Certificate of Occupancy	Engineering	
58. Prior to issuance of Certificate of Occupancy, the applicant shall ensure all structural post construction BMPs identified in the approved project specific Final WQMP are constructed and operational.	Prior to Issuance of first Certificate of Occupancy	Engineering	
59. Prior to issuance of a Certificate of Occupancy, all proposed parkway, slope maintenance, and/or median landscaping specified in these Conditions of Approval shall be constructed.	Prior to Issuance of first Certificate of Occupancy	Engineering	
60. Prior to release of public improvement security, the developer shall cause the civil engineer of record for the approved improvement plans to submit a set of as-built plans for review and approval by the Public Works Department.	Prior to release of public improvement security	Engineering	
61. The developer shall comply with the recommendations in Approved TIA. Prior to issuance of building permit, the developer shall guarantee construction of the following public improvements: Catt Road shall be constructed to its ultimate classification as a Local Road. This shall include construction of applicable curb, gutter and sidewalk improvements along its frontage as well as applicable cul-de-sac. The ultimate modified design shall be coordinated with the City Engineering Division and subject to the satisfaction of the City Engineer.	Prior to first certificate of occupancy	Engineering	

	Arya Road shall be constructed to its ultimate classification as a Local Road, and as identified to support the proposed project per the approved TIA and subject to the satisfaction of the City Engineer The project shall construct Wildomar Trail along its project frontage, at its ultimate half-section width classification as a Collector (74-foot right-of-way) in compliance with applicable City of Wildomar and Caltrans standards subject to the satisfaction of the City Engineer. Wildomar Trail/Clinton Keith Rd: The project shall construct improvements as per approved CIP at this intersection. Improvements include the addition of WBT receiving lane at project frontage and the modification of WBR to WBTR. Signal modifications include changing SBL and NBL signal permissive phasing to protected permissive and overlapping SBR. In the event the CIP improvements are constructed before the project is constructed, the project would contribute fair-share to improvements at this intersection, as identified in the approved TIA. Plans shall be coordinated with the CIP and shall be subject to the satisfaction of the City Engineer. Arya Rd/Clinton Keith Rd: The project shall construct improvements or provide fair-share contribution as identified in the approved TIA and subject to the satisfaction of the City Engineer. Improvements include northbound striping to provide dedicated NBL and NBTR, dedicated SBL and SBTR. Signal modifications include changing NB-SB permissive phasing to protective permissive phasing along with associated improvements necessary to accomplish the lane			

	configuration, road widening, and signal operation discussed above. These improvements would include widening of Arya Rd to 4 lanes. Wildomar Trail/Proj Driveway 4: The project shall construct improvements as a project design feature to add Two Stage Gap Acceptance for EBL approach from Project Driveway consistent with the striping concept included in the approved TIA and subject to the satisfaction of the City Engineer. Sight distance at each project access point shall be reviewed with respect to standard Caltrans and City of Wildomar sight distance standards at the time of preparation of final grading, landscape, and street improvement plans. On-site traffic signing and striping plan shall be constructed as demonstrated in detailed construction plans for the project site subject to the satisfaction of the City Engineer. All public improvement plans shall include adequate transitions beyond the project boundary to 300', at the discretion of the City Engineer. Completion of said improvements shall occur prior to first Certificate of Occupancy for the project site. Design of all public improvements shall be coordinated and approved at the discretion of the City Engineer.			

62.	Walls and fences around the perimeter of the project, or along the public right-of-way, shall be treated with an anti-graffiti coating, consistent with current standards and guidelines, to aid in ongoing maintenance.	Prior to final Certificate of Occupancy	Engineering	
63.	Prior to acceptance of improvements, the City Engineer may determine that aggregate slurry, as defined in the Standard Specifications for Public Works Construction, may be required one year after acceptance of street(s) by the City if the condition of the street(s) warrant its application. All striping shall be replaced in kind. The applicant is the sole responsible party for the maintenance of all the improvements until said acceptance takes place. The final Thermal Plastic striping shall be installed only after the aggregate slurry.	Prior to acceptance of improvements	Engineering	
64.	Any deviations/revisions from the approved WQMP plans and specifications shall be submitted by the Engineer of Record and shall be approved by the City, prior to construction. Approved revisions shall be documented in the Final WQMP on-file with the City. The Developer shall also ensure that the Final WQMP on-file with the owner is also updated. Prior to final approval of the constructed WQMP, the Developer shall submit a certification letter, signed by the Engineer of Record, certifying that the WQMP has been constructed and installed per the approved plans and specifications, and that the WQMP is currently operating in conformance with the original design.	On-going	Engineering	

ATTACHMENT C - EXHIBIT 1 WILDOMAR CROSSROADS MIXED-USE PROJECT - CONDITIONS OF APPROVAL			
Project No.: CUP/Plot Plan/FSPOD No. 21-0145			
Applicant: Sage CK 15 Wildomar, LLC / Intracorp Homes, Inc. (APN: 376-410-015; -016, -017, & -021)			
Planning Commission Date: **October 19, 2022**	**CUP/Plot Plan/FSPOD No. 21-0145 Expiration Date:** **October 19, 2025**		
Conditions of Approval	**Timing/ Implementation**	**Enforcement/ Monitoring**	**Verification (Date and Signature)**

BUILDING DEPARTMENT CONDITIONS				
General Conditions				
1.	The design of the construction drawings submittal post entitlement must be reviewed and stamped by an architect or engineer licensed in the State of California – (Business and Professions code Sections 5537, 5538 and 6737.1).	On-Going	Building Department	
2.	A building permit shall be obtained for the proposed construction and site development. The design of the building shall comply with the 2019 California Building Codes.	On-Going	Building Department	
3.	All grading shall conform to the 2022 California Building Code, and all other relevant laws, ordinances and resolutions governing grading as adopted by the City of Wildomar. The applicant shall obtain a grading permit from the Building & Safety Division prior to commencing any grading or site excavation.	On-Going	Building Department	
4.	A Final geotechnical and/or soils reports shall be submitted to the Building Official for review and approval prior to issuance of a grading permit. All grading shall be in conformance with the recommendations of the geotechnical/soils reports as approved by the City of Wildomar.	On-Going	Building Department	
5.	All proposed work shall comply with the 2022 California Energy Code and all other relevant laws, ordinances and resolutions governing Energy conservation as adopted by the City of Wildomar.	On-Going	Building Department	
6.	Proposed project shall comply with the 2022 California Green Building Standards Code and all other relevant laws, ordinances and resolutions governing sustainable design as adopted by the City of Wildomar.	On-Going	Building Department	

7.	Proposed project shall be sprinklered and comply with all other relevant laws, ordinances and resolutions governing residential sprinklers as adopted by the City of Wildomar.	On-Going	Building Department	
8.	Building Department comments and conditions are subject to plan check. Comments are based on information provided.	On-Going	Building Department	
9.	A Fence and wall plan required will be required prior to the issuance of any building permits for construction of any fences/walls.	On-Going	Building Department	
RIVERSIDE COUNTY FIRE DEPARTMENT CONDITIONS				
General Conditions				
1.	If the project is built phases, each phase of development must comply with all fire department requirements	On-Going	Fire Department	
2.	This project is in a Very High Fire Hazard Severity Zone of Riverside County as shown on a map on file with the Clerk of the Board of Supervisors. Any building constructed within this project shall comply with the special construction provisions contained in City of Wildomar Municipal Code and the California Building Code.	On-Going	Fire Department	
3.	The developer shall provide fire hydrants in accordance with the following. a. Prior to placing any combustibles on site, provide an approved water source for firefighting purposes. b. Prior to building permit issuance, submit plans to the water district for a water system capable of delivering fire flow as required by the California Fire Code and Fire Department standards. Fire hydrants shall be spaced in accordance with the California Fire Code.	On-Going	Fire Department	

4.	Gates must meet Fire Department standards at the time of building permit application. Current standards require that gates have a Knox rapid entry system, an infrared gate opener, and be set back up to 35 feet allow emergency vehicles to safely stop away from traffic flow.	On-Going	Fire Department	
5.	Buildings 3,600 square feet and larger, regardless of occupancy classification, require a fire sprinkler system in accordance with City of Wildomar Municipal Code.	On-Going	Fire Department	
6.	The applicant or developer must provide a fire hydrant system capable of delivering fire flow as required by the California Fire Code and Fire Department standards. Fire hydrants shall be spaced in accordance with the California Fire Code. Based on current standards, the required fire flow is estimated to be 2,500 GPM at 20 PSI for a 2 hour duration. Estimated fire flow is based on a 36,000 square foot building area with Type V-B construction and an approved fire sprinkler system per 2019 California Fire Code.	On-Going	Fire Department	
7.	Prior to building permit issuance, install the approved water system, approved access roads, and contact the Fire Department for a verification inspection.	On-Going	Fire Department	
8.	Emergency vehicle access roads must meet fire department standards at the time of building permit application. Current standards require minimum 24-foot wide roads. Roads must be capable of supporting at least 80,000 pounds. Gates must have a Knox Rapid Entry System.	On-Going	Fire Department	

END

IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

TENTATIVE PARCEL MAP NO. 38333

BEING A SUBDIVISION OF PARCELS 1, 2, 3 AND 4 OF PARCEL MAP 8705
PER BOOK 36, PAGE 69 OF MAPS RECORDS OF RIVERSIDE COUNTY

DATE OF FIELD SURVEY

JULY, 2021

TAX PARCEL NO.

376-410-015, 376-410-016,
376-410-017, 376-410-021

TITLE INFORMATION

THE TITLE INFORMATION SHOWN HEREON IS PER PRELIMINARY REPORT FOR TITLE INSURANCE NO. OSA-6544937 DATED APRIL 28, 2021 AS PREPARED BY FIRST AMERICAN TITLE COMPANY, SANTA ANA, CA [TITLE OFFICER: RIZZA WALKER, TELEPHONE: (714) 250-3098]. NO RESPONSIBILITY OF CONTENT, COMPLETENESS OR ACCURACY OF SAID COMMITMENT IS ASSUMED BY THIS MAP OR THE SURVEYOR.

RECORD OWNER

DAMAS CLINTON KEITH LLC, AS TO AN UNDIVIDED 40% INTEREST AND 24850-23980 CATT RD TRUST DATED NOVEMBER 27, 2020, LAHN VALLEY LLC A WYOMING LIMITED LIABILITY COMPANY, ITS SUCCESSOR OR SUCCESSORS IN INTEREST, AS TRUSTEE, AS TO AN UNDIVIDED 60% INTEREST AS TENANTS IN COMMON, AS TO PARCELS ONE AND TWO;

ARAM PROPERTIES, LLC., A CALIFORNIA LIMITED LIABILITY COMPANY, AS TO PARCELS THREE AND FOUR

LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL ONE:
PARCEL 4 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL TWO:
PARCEL 1 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL THREE:
PARCEL 2 OF PARCEL MAP 8705 IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN ON FILE IN BOOK 36, PAGE 69 OF PARCEL MAPS IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL FOUR:
PARCEL 3 OF PARCEL MAP NO. 8705, AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF PARCEL MAPS, RIVERSIDE COUNTY RECORDS.

TITLE EASEMENTS

THE FOLLOWING MATTERS AFFECT PARCEL ONE:

4 AN EASEMENT IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY, ITS SUCCESSORS AND ASSIGNS FOR EITHER OR BOTH POLE LINES, CONDUITS OR UNDERGROUND FACILITIES AND INCIDENTAL PURPOSES, RECORDED NOVEMBER 16, 1954 AS BOOK 1654, PAGE 530 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - SAID DOCUMENT DOES NOT PROVIDE A WIDTH - CENTERLINE PLOTTED HEREON AS [A])

5 AN EASEMENT IN FAVOR OF THE COUNTY OF RIVERSIDE, FOR PUBLIC ROAD AND DRAINAGE PURPOSES, INCLUDING PUBLIC UTILITY AND PUBLIC SERVICES PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137039 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - PLOTTED HEREON AS [B])

6 AN EASEMENT IN FAVOR OF THE COUNTY OF RIVERSIDE, FOR DRAINAGE PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137040 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - PLOTTED HEREON AS [C])

7 AN EASEMENT IN FAVOR OF COUNTY OF RIVERSIDE, FOR DRAINAGE PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137041 OF OFFICIAL RECORDS.

THE INTEREST OF THE EASEMENT HOLDER HAS SINCE BEEN TRANSFERRED TO THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT BY INSTRUMENTS RECORDED MARCH 01, 2012 AS INSTRUMENT NO. 2012-093233 AND APRIL 20, 2012 AS INSTRUMENT NO. 2012-0181346, BOTH OF OFFICIAL RECORDS.

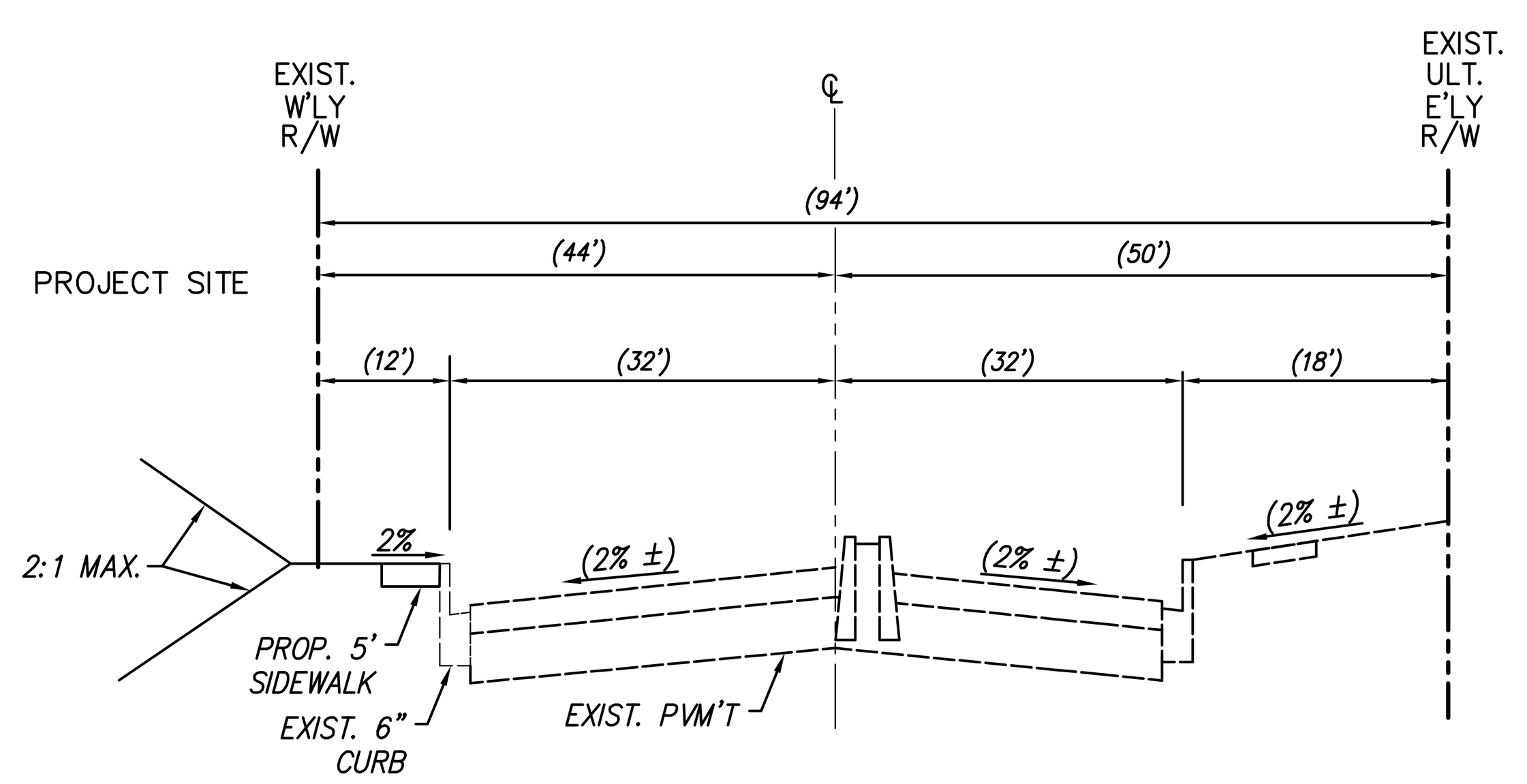
(DOCUMENTS AFFECT - PLOTTED HEREON AS [D])

BASIS OF BEARINGS

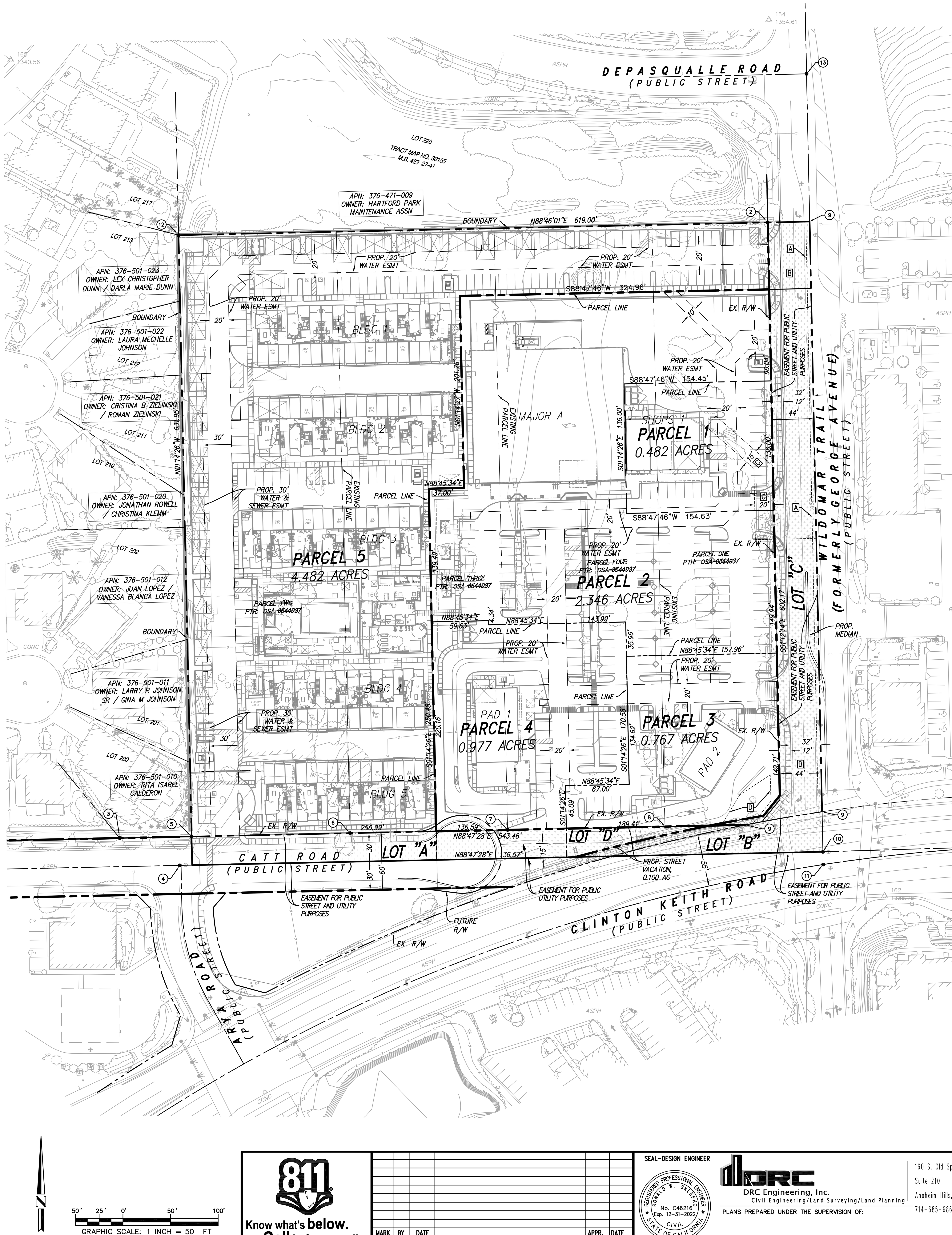
THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF CATT ROAD AS SHOWN ON PARCEL MAP NO. 8705, FILED IN PARCEL MAP BOOK 36, PAGE 69, BEING NORTH 88°47'20" EAST.

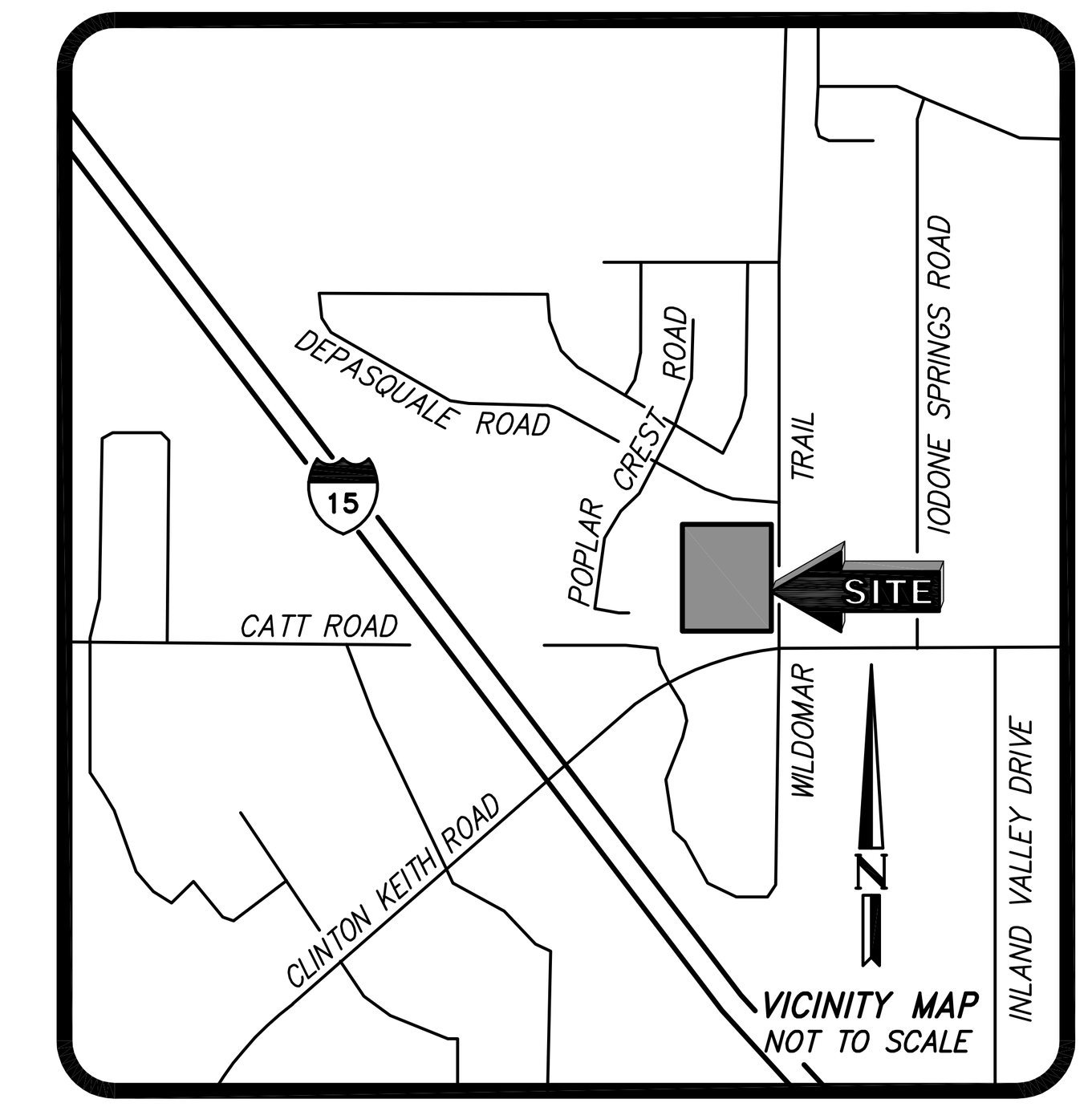
BENCH MARK

B.M. # T-59-81
3" ALUMINUM DISK IN CONC. CYLINDER. FROM THE INT. OF IVY ST. AND WASHINGTON ST., 3.6 MILES N.W. ON WASHINGTON-PALOMAR STS. TO THE INT. OF PALOMAR AND CLINTON KEITH RD., TO THE INT. OF CLINTON KEITH RD. AND GRAND AVE. IN THE N. COR. OF THE "T" INT.; 124.8' W. OF CLINTON KEITH RD.; 47.6' NO. OF GRAND AVE; 6' NE. OF A 1" I.P. W/PLASTIC PLUG LS 2606: 2' S. OF A 6' CHAIN LINK FENCE AROUND A S.C.E POWER STATION AND R.C.W.D. WELL SITE; 10' N. OF P.P. #2075052E; SET FIBERGLASS WITNESS POST 1' NORTH. ELEV. 1192.072



TYPICAL SECTION – WILDOMAR TRAIL
T.I.=8.5, R=34
N.T.S.





MONUMENT AND ESTABLISHMENT NOTES

● INDICATES FOUND MONUMENT AS NOTED BELOW.

(1) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, DOWN 0.6'. ACCEPTED AS POINT ON THE CENTERLINE OF CATT ROAD.

(2) INDICATES FOUND LEAD, TACK AND TAG STAMPED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.

(3) INDICATES FOUND 1" IRON PIPE (WITH PLASTIC PLUG) TAGGED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.

(4) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CATT ROAD AND ARYA DRIVE.

(5) INDICATES FOUND 1" IRON PIPE (WITH PLASTIC PLUG) TAGGED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., DOWN 0.5'.

(6) INDICATES FOUND 1" IRON PIPE TAGGED "L.S. 3365", PER R1, DOWN 0.4'. SAID MONUMENT IS LOCATED SOUTH 01°18'34" EAST, 0.11 FEET FROM THE SOUTH COMMON CORNER BETWEEN PARCELS 1 AND 2 OF R1.

(7) INDICATES FOUND 1" IRON PIPE TAGGED "L.S. 3365", PER R1, DOWN 0.4'. SAID MONUMENT IS LOCATED SOUTH 01°17'00" WEST, 0.25 FEET FROM THE SOUTH COMMON CORNER BETWEEN PARCELS 2 AND 3 OF R1.

(8) INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED THE SOUTH COMMON CORNER BETWEEN PARCELS 3 AND 4 OF R1 BY PRORATION USING R1 DATA.

(9) INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED BY INTERSECTION.

(10) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CATT ROAD AND GEORGE AVENUE.

(11) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CLINTON KEITH ROAD AND GEORGE AVENUE.

(12) INDICATES FOUND LEAD, TACK AND TAG STAMPED "LS 7910" ON TOP OF WALL, PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH WITH TOP OF WALL.

(13) INDICATES FOUND GIN SPINDLE WITH WASHER STAMPED "LS 7910", PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.

(14) INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED BY HOLDING RECORD DATA PER R1.

LINE LEGEND

- PROPERTY LINE
- CENTER LINE
- EASEMENT
- PARCEL LINE
- EXISTING LOT LINE/ RIGHT-OF-WAY LINE

UTILITIES

ELECTRIC:	SOUTHERN CALIFORNIA EDISON COMPANY 1351 E. FRANCIS ONTARIO, CA 91761 (800) 655-4555
WATER:	ELSINORE VALLEY MUNICIPAL WATER DISTRICT 31315 CHANEY STREET LAKE ELSINORE, CA 92531-3000 (951) 674-3146
GAS:	SOUTHERN CALIFORNIA GAS COMPANY 1981 LUGONIA REDLANDS, CA 92373 (800) 427-2200
CABLE:	CHARTER COMMUNICATIONS 7337 CENTRAL AVENUE RIVERSIDE, CA 92504 (909) 359-8989
TELEPHONE:	PACIFIC BELL TELEPHONE / SBC 3939 E. CORONADO ANAHEIM, CA 92807 (800) 750-2355
SEWER:	ELSINORE VALLEY MUNICIPAL WATER DISTRICT 31315 CHANEY STREET LAKE ELSINORE, CA 92531-3000 (951) 674-3146

ZONING / LAND USE

SCENIC HIGHWAY COMMERCIAL (C-P-S) WITH A HOUSING ELEMENT MIXED USE OVERLAY

DEVELOPER

SAGE CITRUS FONTANAN, LLC
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
TELE: 949-954-5100

ENGINEER

DRC ENGINEERING, INC.
6840 INDIANA AVENUE, SUITE 215
RIVERSIDE, CA 92506
(714) 685 - 6860 X 307

CONTACT: RONALD W. SKLEPKO, P.E.

AREA SUMMARY

PARCEL 1:	0.482 ACRES
PARCEL 2:	2.346 ACRES
PARCEL 3:	0.767 ACRES
PARCEL 4:	0.977 ACRES
PARCEL 5:	4.482 ACRES
TOTAL:	9.054 ACRES
STREET VACATION:	0.100 ACRES
NET	8.95 ACRES

LOT SUMMARY

LOT "A":	0.240 ACRES
LOT "B":	0.149 ACRES
LOT "C":	0.624 ACRES
LOT "D":	0.100 ACRES (VACATION AREA)

PROJECT AREA: 9.05 ACRES
TOTAL DISTURBED AREA: 10.05 ACRES

PRELIMINARY EARTHWORK QUANTITIES	
RAW CUT	67,340 CY
RAW FILL	22,390 CY
SOIL OVEREX.	67,160 CY
EARTHWORK EXPORT	38,761 CY

Know what's below. Call before you dig.

MARK	BY	DATE	REVISIONS	APPR.	DATE

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER RONALD W. SKLEPKO No. C46216 Exp. 12-31-2022 CIVIL STATE OF CALIFORNIA

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PLANS PREPARED UNDER THE SUPERVISION OF:
RONALD W. SKLEPKO R.C.E. 46216 DATE

BENCH MARK:
RIVERSIDE COUNTY B.M. H-10-2 (SEE DESCRIPTION HEREON)

SCALE: PER PLAN

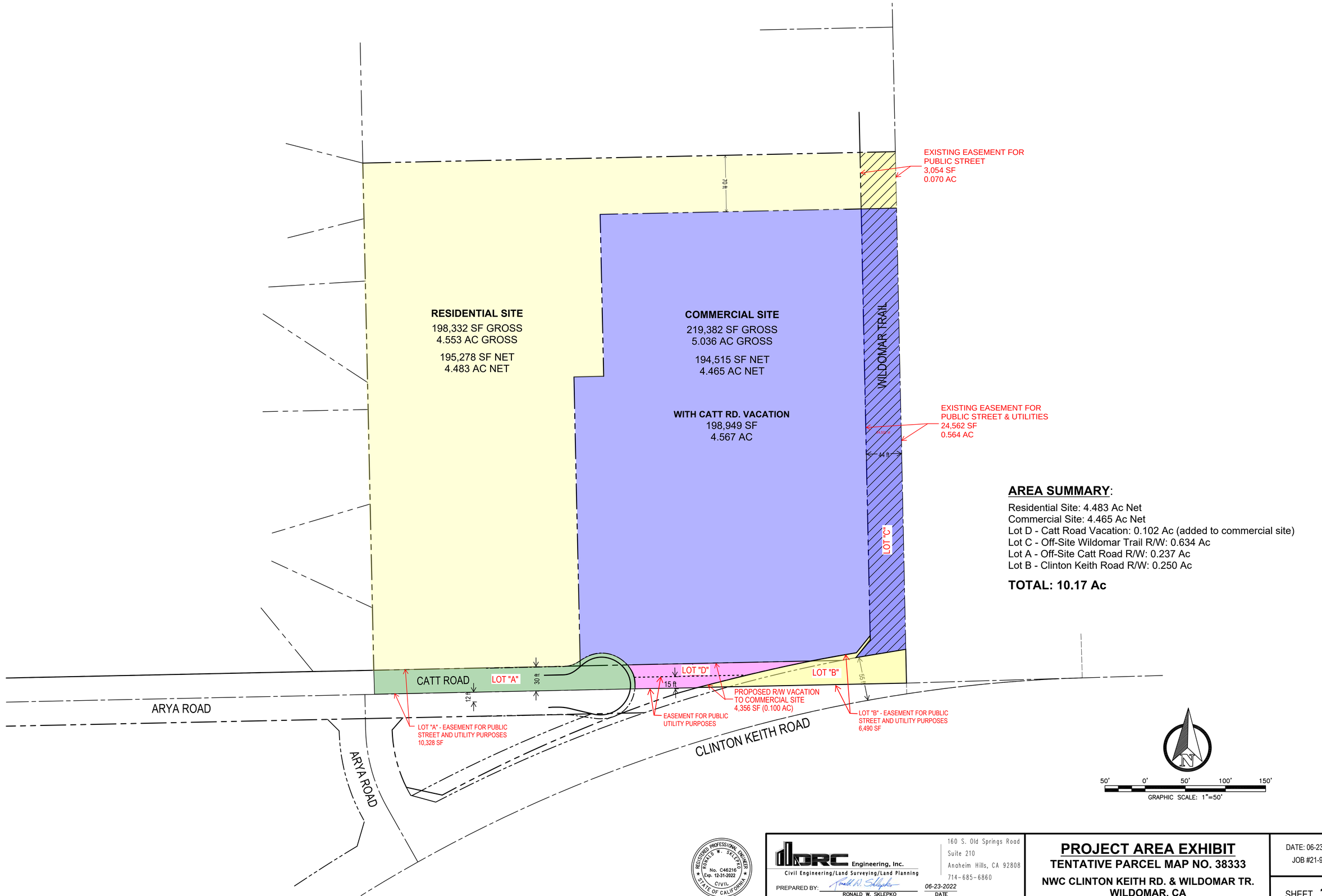
CITY OF WILDOMAR
PARCEL MAP NO. 38333
N.W. WILDOMAR TRAIL AND CLINTON KEITH ROAD
CITY OF WILDOMAR, COUNTY OF RIVERSIDE

FOR: CITY OF WILDOMAR

PLAN No. ______

1 OF 1 SHEETS

M:\2021\21-994 Sage Investco Wildomar Retail\TPM\21-994 Wildomar Trail tpm101.dwg; Jun 23, 2022 - 11:19am



AREA SUMMARY:

Residential Site: 4.483 Ac Net
Commercial Site: 4.465 Ac Net
Lot D - Catt Road Vacation: 0.102 Ac (added to commercial site)
Lot C - Off-Site Wildomar Trail R/W: 0.634 Ac
Lot A - Off-Site Catt Road R/W: 0.237 Ac
Lot B - Clinton Keith Road R/W: 0.250 Ac

TOTAL: 10.17 Ac

REGISTERED PROFESSIONAL ENGINEER
RONALD W. SKLEPKO
No. C46216
Exp. 12-31-2022
CIVIL
STATE OF CALIFORNIA

RBF Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PREPARED BY: Ronald W. Sklepko
RONALD W. SKLEPKO
06-23-2022
DATE

R.C.E. No. C46216 EXP. 12-31-2022

PROJECT AREA EXHIBIT

TENTATIVE PARCEL MAP NO. 38333

NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 06-23-2022
JOB #21-994

SHEET 1

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA



SHEET INDEX

OVERALL PROJECT EXHIBITS
2 COMPOSITE SITE PLAN
3 ENLARGED RESIDENTIAL DISTRICT SITE PLAN
4 ENLARGED COMMERCIAL DISTRICT SITE PLAN
5 PROJECT AREA EXHIBIT
6 EMERGENCY VEHICLE ACCESS PLAN
7 OPEN SPACE PLAN
8 ILLUSTRATIVE LANDSCAPE PLAN
9 OVERALL LANDSCAPE PLAN
10 RESIDENTIAL LANDSCAPE PLAN
11 COMMERCIAL LANDSCAPE PLAN
12 CONCEPTUAL LANDSCAPE DETAILS
13 CONCEPTUAL GRADING PLAN
14 CONCEPTUAL UTILITY PLAN
15 TENTATIVE PARCEL MAP
16 SITE LIGHTING COVER SHEET
17 SITE LIGHTING LAYOUT- PARTIAL NORTH AREA
18 SITE LIGHTING LAYOUT- PARTIAL SOUTH AREA
19 SITE PHOTOMETRICS- PARTIAL NORTH AREA
20 SITE PHOTOMETRICS- PARTIAL SOUTH AREA
21 SITE LIGHTING FIXTURE CUT SHEETS
22 SITE LIGHTING FIXTURE CUT SHEETS
23 SITE LIGHTING FIXTURE CUT SHEETS

COMMERCIAL DISTRICT EXHIBITS
24 MAJOR A FLOOR PLAN
25 MAJOR A ROOF PLAN
26 MAJOR A EXTERIOR ELEVATIONS (B&W)
27 MAJOR A SOUTH (FRONT) ELEVATION (COLOR)
28 MAJOR A WEST & EAST ELEVATIONS (COLOR)
29 MAJOR A NORTH (REAR) ELEVATION (COLOR)
30 SHOPS FLOOR PLAN
31 SHOPS ROOF PLAN
32 SHOPS SOUTH & EAST EXTERIOR ELEVATIONS (B&W)
33 SHOPS SOUTH & EAST EXTERIOR ELEVATIONS (COLOR)
34 SHOPS NORTH EXTERIOR ELEVATIONS (B&W)
35 SHOPS NORTH EXTERIOR ELEVATIONS (COLOR)
36 PAD 1 FLOOR PLAN
37 PAD 1 ROOF PLAN
38 PAD 1 SOUTH & EAST EXTERIOR ELEVATIONS (B&W)
39 PAD 1 SOUTH & EAST EXTERIOR ELEVATIONS (COLOR)
40 PAD 1 NORTH & WEST EXTERIOR ELEVATIONS (B&W)
41 PAD 1 NORTH & WEST EXTERIOR ELEVATIONS (COLOR)
42 PAD 2 FLOOR PLAN
43 PAD 2 ROOF PLAN
44 PAD 2 SOUTH & EAST EXTERIOR ELEVATIONS (B&W)
45 PAD 2 SOUTH & EAST EXTERIOR ELEVATIONS (COLOR)
46 PAD 2 NORTH & WEST EXTERIOR ELEVATIONS (B&W)
47 PAD 2 NORTH & WEST EXTERIOR ELEVATIONS (COLOR)
48 COMMERCIAL DISTRICT COLORS & MATERIALS BOARD

RESIDENTIAL DISTRICT EXHIBITS
49 BUILDING 1, 2 COMPOSITE PLAN- LEVEL 1-3
50 BUILDING 3 COMPOSITE PLAN- LEVEL 1-3 & ROOF
51 BUILDING 4 COMPOSITE PLAN- LEVEL 1-3
52 BUILDING 5 COMPOSITE PLAN- LEVEL 1-3
53 BUILDING 1 EXTERIOR ELEVATIONS (B&W)
54 BUILDING 1 EXTERIOR ELEVATIONS (COLOR)
55 BUILDING 1 EXTERIOR ELEVATIONS (B&W)
56 BUILDING 1 EXTERIOR ELEVATIONS (COLOR)
57 BUILDING 2 EXTERIOR ELEVATIONS (B&W)
58 BUILDING 2 EXTERIOR ELEVATIONS (COLOR)
59 BUILDING 2 EXTERIOR ELEVATIONS (B&W)
60 BUILDING 2 EXTERIOR ELEVATIONS (COLOR)
61 BUILDING 3 EXTERIOR ELEVATIONS (B&W)
62 BUILDING 3 EXTERIOR ELEVATIONS (COLOR)
63 BUILDING 3 EXTERIOR ELEVATIONS (B&W)
64 BUILDING 3 EXTERIOR ELEVATIONS (COLOR)
65 BUILDING 4 EXTERIOR ELEVATIONS (B&W)
66 BUILDING 4 EXTERIOR ELEVATIONS (COLOR)
67 BUILDING 4 EXTERIOR ELEVATIONS (B&W)
68 BUILDING 4 EXTERIOR ELEVATIONS (COLOR)
69 BUILDING 5 EXTERIOR ELEVATIONS (B&W)
70 BUILDING 5 EXTERIOR ELEVATIONS (COLOR)
71 BUILDING 5 EXTERIOR ELEVATIONS (B&W)
72 BUILDING 5 EXTERIOR ELEVATIONS (COLOR)
73 CONCEPTUAL PERSPECTIVE
74 CONCEPTUAL UNIT PLANS
75 CONCEPTUAL AMENITY PLAN
76 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (B&W)
77 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (COLOR)
78 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (B&W)
79 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (COLOR)
80 CONCEPTUAL PARKING SECTION
81 RESIDENTIAL DISTRICT COLORS & MATERIALS BOARD
82 RESIDENTIAL DISTRICT COLORS & MATERIALS BOARD

DESIGN TEAM

COMMERCIAL DEVELOPER:
SAGE INVESTCO, LLC
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

RESIDENTIAL DEVELOPER:
INTRACORP
895 DOVE STREET
NEWPORT BEACH, CA 92660
949.757.8461

COMMERCIAL ARCHITECT:
GK PIERCE ARCHITECTS, INC.
3 OVERTURE
ALISO VIEJO, CA 92656
949.344.2709

RESIDENTIAL ARCHITECT:
ARCHITECTS ORANGE, INC.
144 N. ORANGE STREET
ORANGE, CA 92866
714.639.9860

LANDSCAPE ARCHITECT:
URBAN ARENA, INC.
11300 SORRENTO VALLEY ROAD
SAN DIEGO, CA 92121
858.625.0112

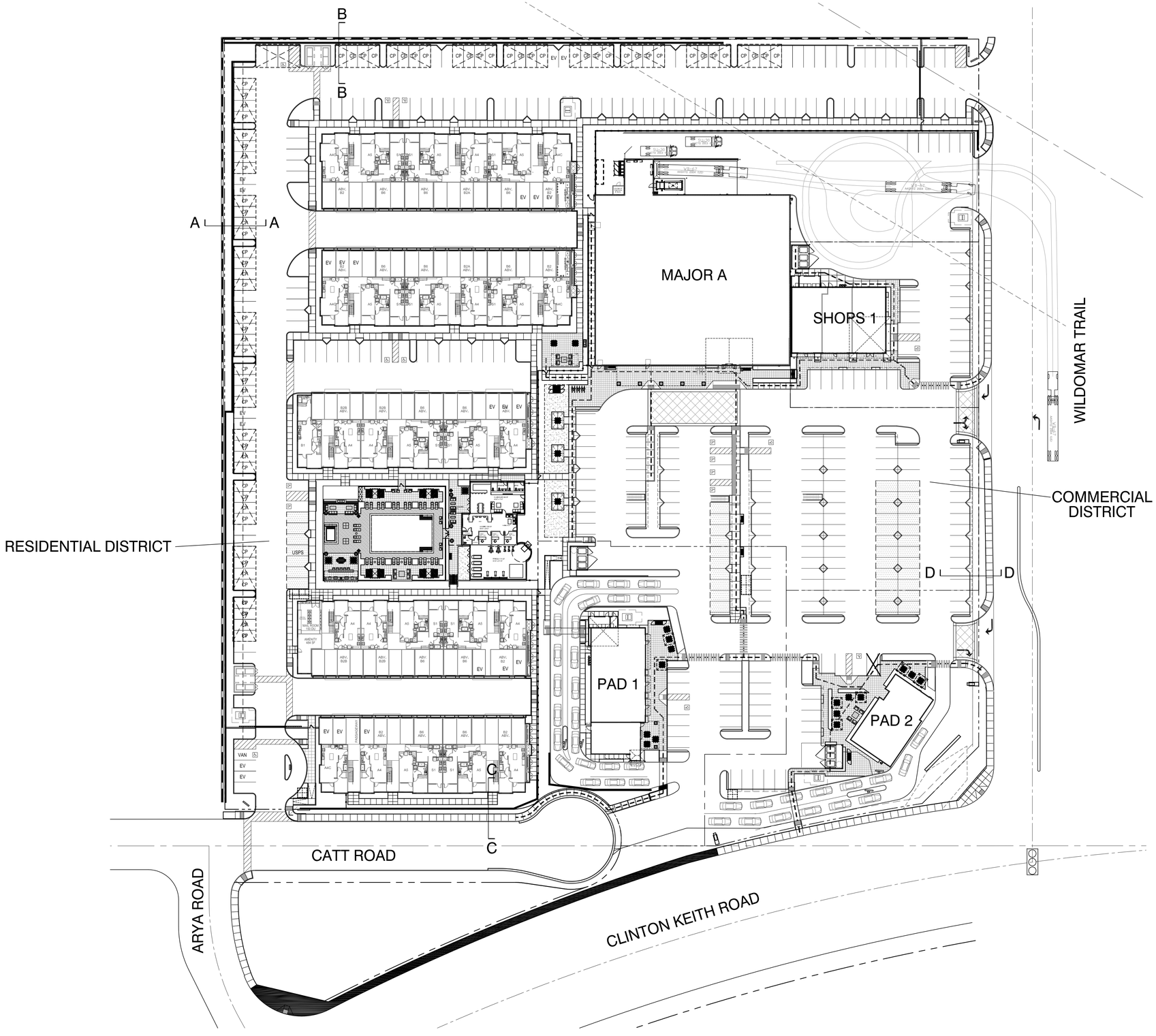
CIVIL ENGINEER:
DRC ENGINEERING, INC.
6840 INDIANA AVENUE, SUITE 215
RIVERSIDE, CA 92506
714.685.6860

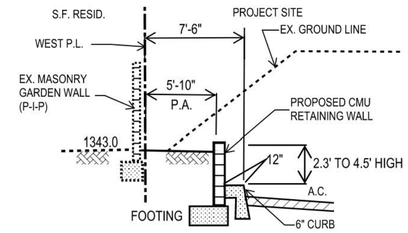
INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.757.8461

KASSEN KLEIN
Real Estate Development Entitlement Consulting
(951) 733-7665
kassen@kassenklein.com
P.O. Box 747, Murrieta, CA 92564

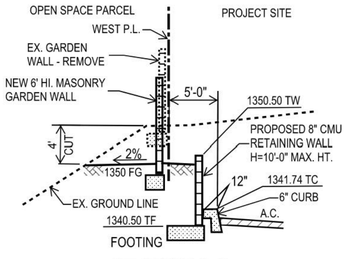
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

JUNE 23, 2022

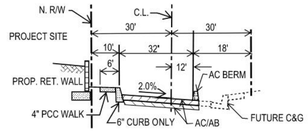




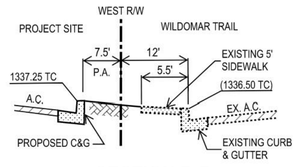
SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

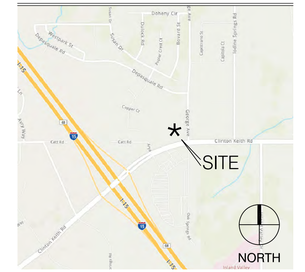


SECTION C-C CATT ROAD
LOOKING EAST
N.T.S.



SECTION D-D
N.T.S.

VICINITY



LEGAL

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-015 & -021

PROPERTY OWNER:
DAMAS CLINTON KEITH, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-016 & -017

PROPERTY OWNER:
ARAM PROPERTIES, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

DEVELOPER/ AGENT (COMMERCIAL):
SAGE INVESTCO, LLC
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

DEVELOPER/ AGENT (RESIDENTIAL):
INTRACORP SW, LLC
895 DOVE STREET, SUITE 400
NEWPORT BEACH, CA 92660
949.955.2370

ZONING

GENERAL PLAN:

ZONING:	C-P-S (SCENIC HIGHWAY COMMERCIAL) MIXED USE OVERLAY ZONE
CITY COUNCIL DISTRICT:	5
BUILDING SETBACKS:	
<35 TALL:	0'
>35 TALL:	2 FOR EACH FOOT OVER 35
LANDSCAPE SETBACKS:	
ADJACENT TO PUBLIC ROAD RIGHT-OF-WAY:	5'
ADJACENT TO RESIDENTIAL ZONE:	5'
MAXIMUM BUILDING HEIGHT:	50'
MAXIMUM BUILDING COVERAGE:	N/A

COMMERCIAL & RESIDENTIAL DISTRICT PROJECT SUMMARIES

REFER TO ENLARGED SITE PLANS FOR SUMMARIES, DETAILS AND INFORMATION FOR EACH DISTRICT

NOTE:
THIS SITE PLAN SHOWS DEVELOPERS PLAN FOR THE CONFIGURATION OF THE PROJECT AS OF THE DATE OF THE SITE PLAN, ONLY.

BUILDING AREAS AND LAND COVERAGE ARE PRELIMINARY AND SUBJECT TO ADJUSTMENT. ANY PROPOSED DEVELOPMENT IS SUBJECT TO APPROVAL OF GOVERNMENT OR OTHER AGENCIES HAVING JURISDICTION. ALL DIMENSIONS AND SITE CONDITIONS ARE SUBJECT TO VERIFICATION.

COMPOSITE SITE PLAN SCHEME Jv11

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 20' 40' 80'
SCALE: 1" = 40.00'
NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

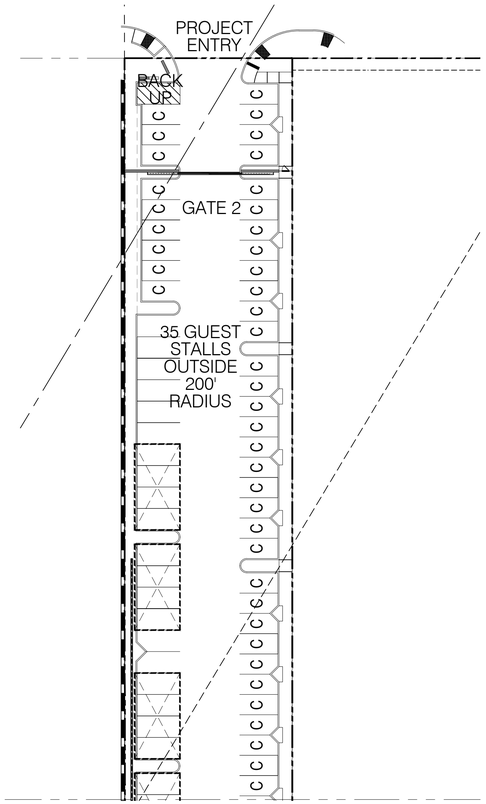
INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

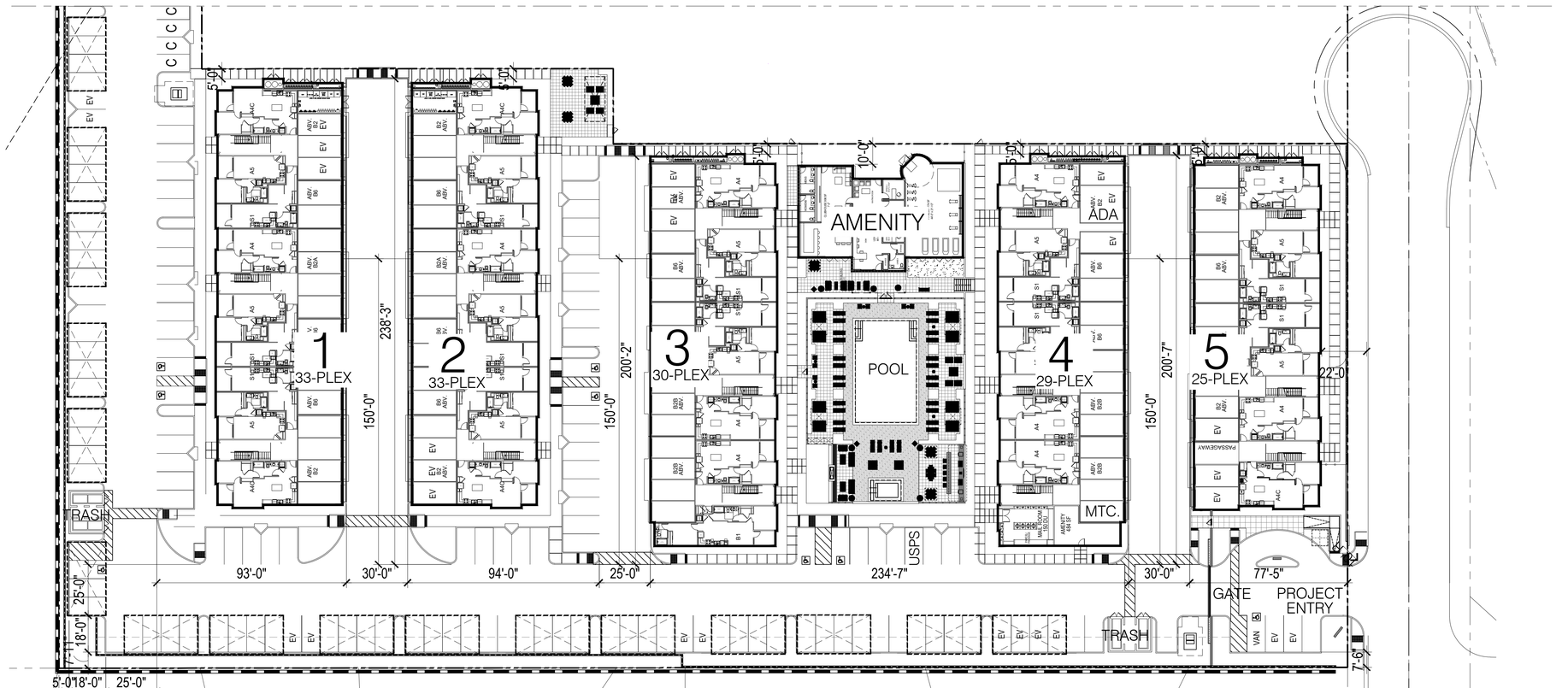
GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SEE PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-A

SEE PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-B



PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-B

PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-A

SITE PLAN - 150 DU

PROJECT DESCRIPTION:
3-STORY, PRIVATELY FUNDED MARKET-RATE APARTMENTS (R-2 OCCUPANCY) WITH ATTACHED GARAGES (U OCCUPANCY), TYPE VA CONSTRUCTION WITH NFPA 13R AND 13 SPRINKLER SYSTEMS.

SITE AREA: 4.48 AC
UNITS: 150 DU
DENSITY: 33.5 DU/AC

Parking Required:			
Type	Count	Ratio	QTY
Studio	12	1.25	15
1 Bedroom	81	1.25	101
2 Bedroom	57	2.25	128
Guest	245	0.15	37
TOTAL STALLS REQUIRED		**(1.88 ST/ DU)**	**282**
Total Accessible Stalls Assigned(Incl. 1 Van)			2
Total Accessible Sta 1 per 6 H/C stalls			2
Total EV Stalls Required			29

Parking Provided:	
Garage Stalls	77
Garage Stalls (ADA)	1
Standard Carport Sta 1 per 6 H/C stalls	66
Open Stalls Standard	61
Open Stalls Compact	44
Accessible Stalls Car Open (Incl.1EV)	5
Accessible Stalls Car at Carport	1
Accessible Stalls Van (Incl. 1EV)	1
EV Stalls at Carport	4
EV Stalls at PrivateGarages	15
EV Stalls Open (not incl. 1 ADA Van & 1 ADA Car)	8
TOTAL STALLS PROVIDED	**283**

TOTAL UNIT SUMMARY

Unit	Unit SF	Qty.	Total *	Deck SF	Deck Total	Qty.	Percentage
S1	580	12	6,960	80	960	12	8%
A2	661	2	1,322	76	152	81	54%
A4	788	24	18,912	70	1,680		
A4C	810	19	15,390	70	1,330		
A5	630	36	22,680	76	2,736		
B1	946	5	4,730	70	350	57	38%
B2	981	20	19,620	70	1,400		
B2B	936	8	7,488	70	560		
B6	1,115	24	26,760	76	1,824		
Avg.	**826**	**150**	**123,862**	**73**	**10,992**	150	100%
* RESIDENTIAL UNIT NET AREA							

NORTH

1"=30'-0" 0 15' 30' 60' 90'

CONCEPTUAL RESIDENTIAL SITE PLAN 3

CONCEPTUAL RESIDENTIAL SITE PLAN SCHEME Hv5
NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
23 JUNE 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

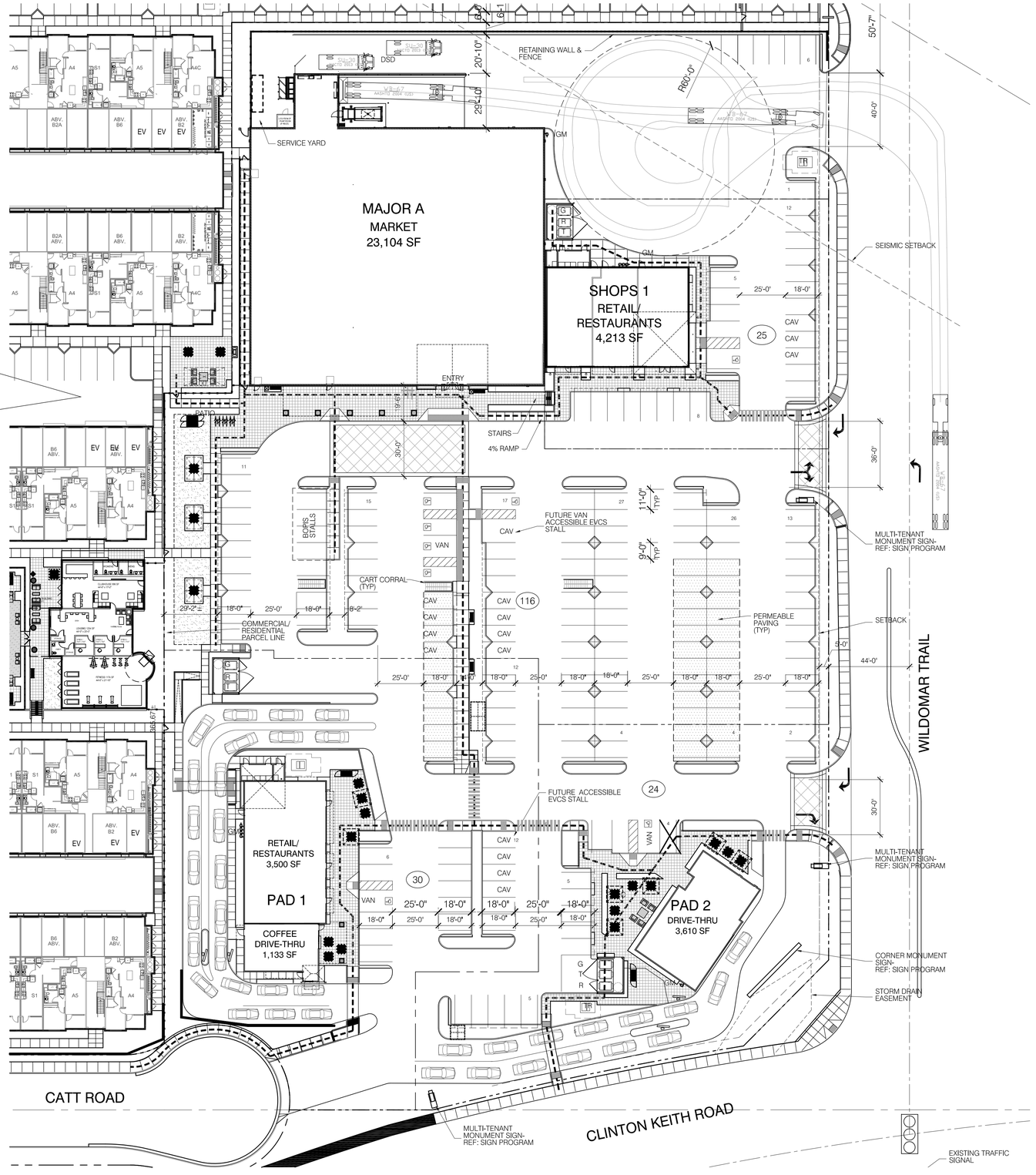
GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

REFER TO ENLARGED RESIDENTIAL DISTRICT SITE PLAN FOR ALL INFORMATION IN THE RESIDENTIAL DISTRICT



PARKING WMC 17.188.030

REQUIRED PARKING:
SHOPPING CENTERS (6/ 1,000 NET LEASABLE): 208 STALLS

TOTAL PARKING PROVIDED: 195 STALLS (5.6/ 1,000)

STANDARD PARKING SPACE DIMENSIONS: 9' X 18'
COMPACT PARKING SPACE DIMENSIONS (20% MAX): 8.5' X 16'
MINUMUM DRIVE AISLE WIDTH: 24'
DRIVE-THRU STACKING DISTANCE (PER VEHICLE): 25'
MIN STACKING IN DRIVE-THRU: 12 CARS PRIOR TO MENU BD

ACCESSIBLE PARKING

2019 CBC
TABLE 11B-208.2

TOTAL NUMBER OF PARKING SPACES PROVIDED	TOTAL NUMBER OF ACCESSIBLE SPACES
1- 25	1
26- 50	2
51- 75	3
76- 100	4
101- 150	5
151- 200	6
201- 300	7
301- 400	8
401- 500	9
501- 1,000	2 PERCENT OF TOTAL
1,001 AND OVER	20 PLUS 1/100 OVER 1,000

TOTAL PARKING PROVIDED: 195 STALLS
TOTAL ACCESSIBLE SPACES REQUIRED: 6 STALLS
VAN ACCESSIBLE REQ'D (SEC.11B-208.2.4) 2 OF TOTAL REQ'D

ACCESSIBLE SPACES PROVIDED:
STANDARD STALL: 3 STALLS
VAN ACCESSIBLE STALLS: 4 STALLS

TOTAL ACCESSIBLE SPACES PROVIDED: 7 STALLS

CLEAN AIR VEHICLE PARKING

2019 CAL GREEN
TABLE 5.106.5.2

TOTAL NUMBER OF PARKING SPACES	TOTAL NUMBER OF PARKING SPACES
0- 9	0
10- 25	1
26- 50	3
51- 75	6
76- 100	8
101- 150	11
151- 200	16
201 AND OVER	8 PERCENT OF TOTAL

TOTAL PARKING PROVIDED: 195 STALLS
TOTAL CAV PARKING REQUIRED: 16 STALLS
TOTAL CAV PARKING PROVIDED: **16 STALLS

**(CALGREEN 5.106.5.3.5: FUTURE EVCS SPACES QUALIFY AS DESIGNATED PARKING FOR CLEAN AIR VEHICLES)

FUTURE ELECTRICAL VEHICLE CHARGING STATIONS

2019 CAL GREEN
TABLE 5.106.5.3.3

TOTAL NUMBER OF PARKING SPACES	TOTAL NUMBER OF EVCS SPACES
0- 9	0
10- 25	1
26- 50	2
51- 75	4
76- 100	5
101- 150	7
151- 200	10
201 AND OVER	6 PERCENT OF TOTAL

2019 CBC
TABLE 11B-228.3.2.1

TOTAL NUMBER OF EVCS AT A FACILITY	VAN ACCESSIBLE	STANDARD ACCESSIBLE	AMBULATORY
1- 4	1	0	0
5-25	1	1	0
26- 50	1	1	1
51- 75	1	2	2
76- 100	1	3	3
101 AND OVER	1 + 1/300 OVER 100	3 + 1/60 OVER 100	1 + 1/50 OVER 100

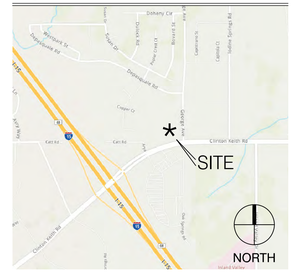
TOTAL PARKING PROVIDED: 195 STALLS
FUTURE EVCS SPACES REQUIRED): 10 STALLS
FUTURE ACCESSIBLE SPACES REQ'D (OF TOTAL):
VAN ACCESSIBLE: 1 STALL
STANDARD ACCESSIBLE: 1 STALL
AMBULATORY: 0 STALLS

FUTURE EVCS SPACES PROVIDED:
FUTURE STANDARD EVCS SPACES: 14 STALLS
FUTURE VAN ACCESSIBLE EVCS: 1 STALLS
FUTURE STANDARD ACCESSIBLE EVCS: 1 STALLS
FUTURE AMBULATORY EVCS: 0 STALLS

TOTAL FUTURE EVCS SPACES PROVIDED: 16 STALLS

FUTURE EVCS NOTES:
1. ALL CLEAN AIR VEHICLE PARKING SPACES SHALL BE PROVIDED WITH INFRASTRUCTURE FOR THE ADDITION OF FUTURE ELECTRIC VEHICLE CHARGING STATIONS.
2. FUTURE ACCESSIBLE EVCS STALLS SHALL BE CONSTRUCTED TO MEET CURRENT ACCESSIBILITY STANDARDS ALONG ACCESSIBLE ROUTES OR, HAVE THE ABILITY TO BE MODIFIED WITHOUT AFFECTING REQUIRED PARKING SPACE QUANTITIES.

VICINITY



LEGAL

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-015 & -021

PROPERTY OWNER:
DAMAS CLINTON KEITH, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-016 & -017

PROPERTY OWNER:
ARAM PROPERTIES, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

DEVELOPER/ AGENT (COMMERCIAL):
SAGE INVESTCO, LLC
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

ZONING

GENERAL PLAN:

ZONING: C-P-S (SCENIC HIGHWAY COMMERCIAL)
MIXED USE OVERLAY ZONE
CITY COUNCIL DISTRICT: 5

BUILDING SETBACKS:
<35' TALL: 0'
>35' TALL: 2 FOR EACH FOOT OVER 35'
LANDSCAPE SETBACKS:
ADJACENT TO PUBLIC ROAD RIGHT-OF-WAY: 5'
ADJACENT TO RESIDENTIAL ZONE: 5'

MAXIMUM BUILDING HEIGHT: 50'

MAXIMUM BUILDING COVERAGE: N/A

COMMERCIAL PROJECT SUMMARY

LAND AREA: 4.55 AC (198,085 SF±)

RETAIL/ RESTAURANTS: 34,540 SF

BUILDING COVERAGE (F.A.R.): 17.4%

NOTE:
THIS SITE PLAN SHOWS DEVELOPERS PLAN FOR THE CONFIGURATION OF THE PROJECT AS OF THE DATE OF THE SITE PLAN, ONLY.

BUILDING AREAS AND LAND COVERAGE ARE PRELIMINARY AND SUBJECT TO ADJUSTMENT. ANY PROPOSED DEVELOPMENT IS SUBJECT TO APPROVAL OF GOVERNMENT OR OTHER AGENCIES HAVING JURISDICTION. ALL DIMENSIONS AND SITE CONDITIONS ARE SUBJECT TO VERIFICATION.

COMMERCIAL DISTRICT SITE PLAN SCHEME Jv10

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
26 MAY 2022

0 15' 30' 60'
SCALE: 1" = 30.00'
NORTH

WILDOMAR CROSSROADS

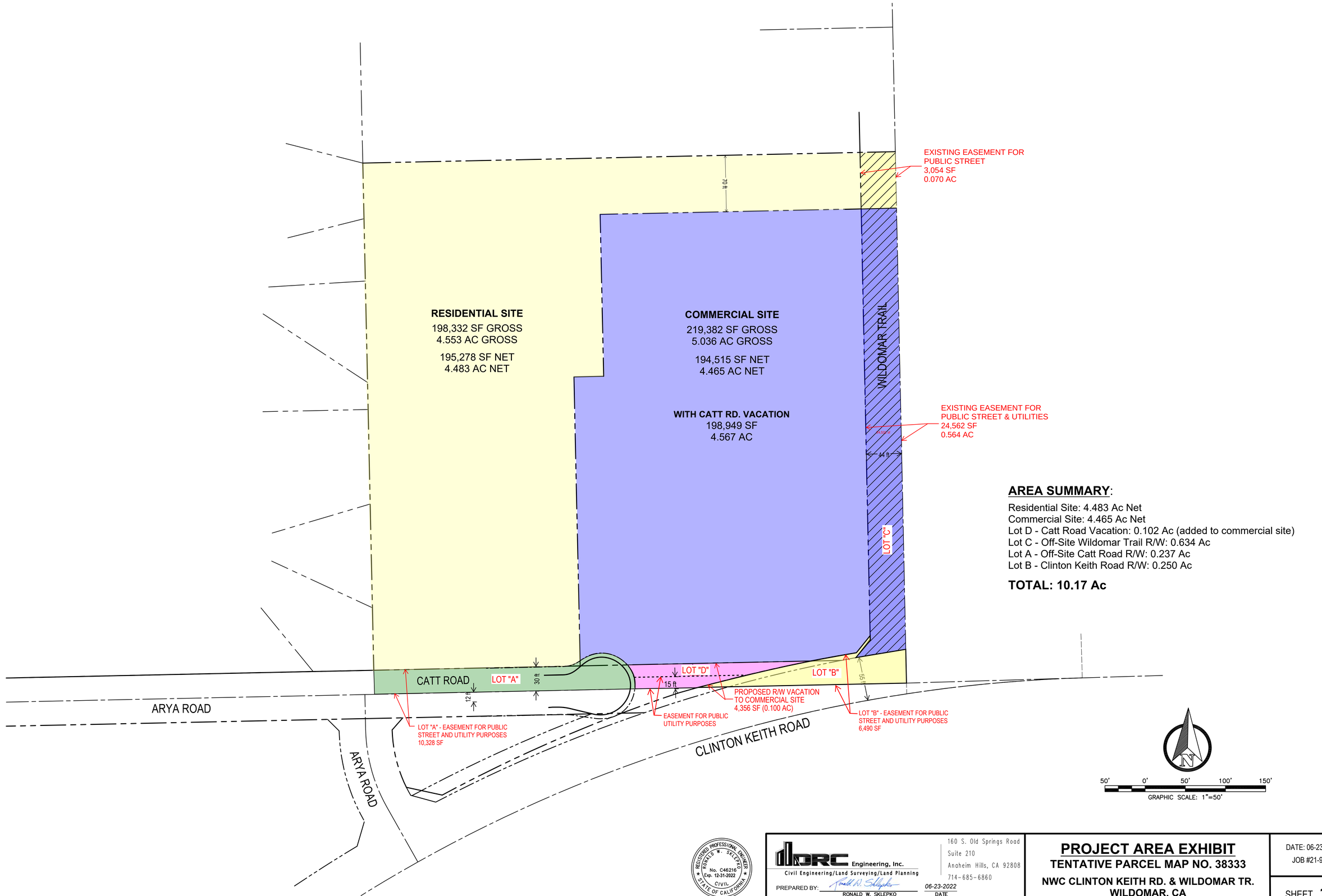
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

2599



AREA SUMMARY:

Residential Site: 4.483 Ac Net
Commercial Site: 4.465 Ac Net
Lot D - Catt Road Vacation: 0.102 Ac (added to commercial site)
Lot C - Off-Site Wildomar Trail R/W: 0.634 Ac
Lot A - Off-Site Catt Road R/W: 0.237 Ac
Lot B - Clinton Keith Road R/W: 0.250 Ac

TOTAL: 10.17 Ac

REGISTERED PROFESSIONAL ENGINEER
RONALD W. SKLEPKO
No. C46216
Exp. 12-31-2022
CIVIL
STATE OF CALIFORNIA

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PREPARED BY: Ronald W. Sklepko 06-23-2022
RONALD W. SKLEPKO DATE
R.C.E. No. C46216 EXP. 12-31-2022

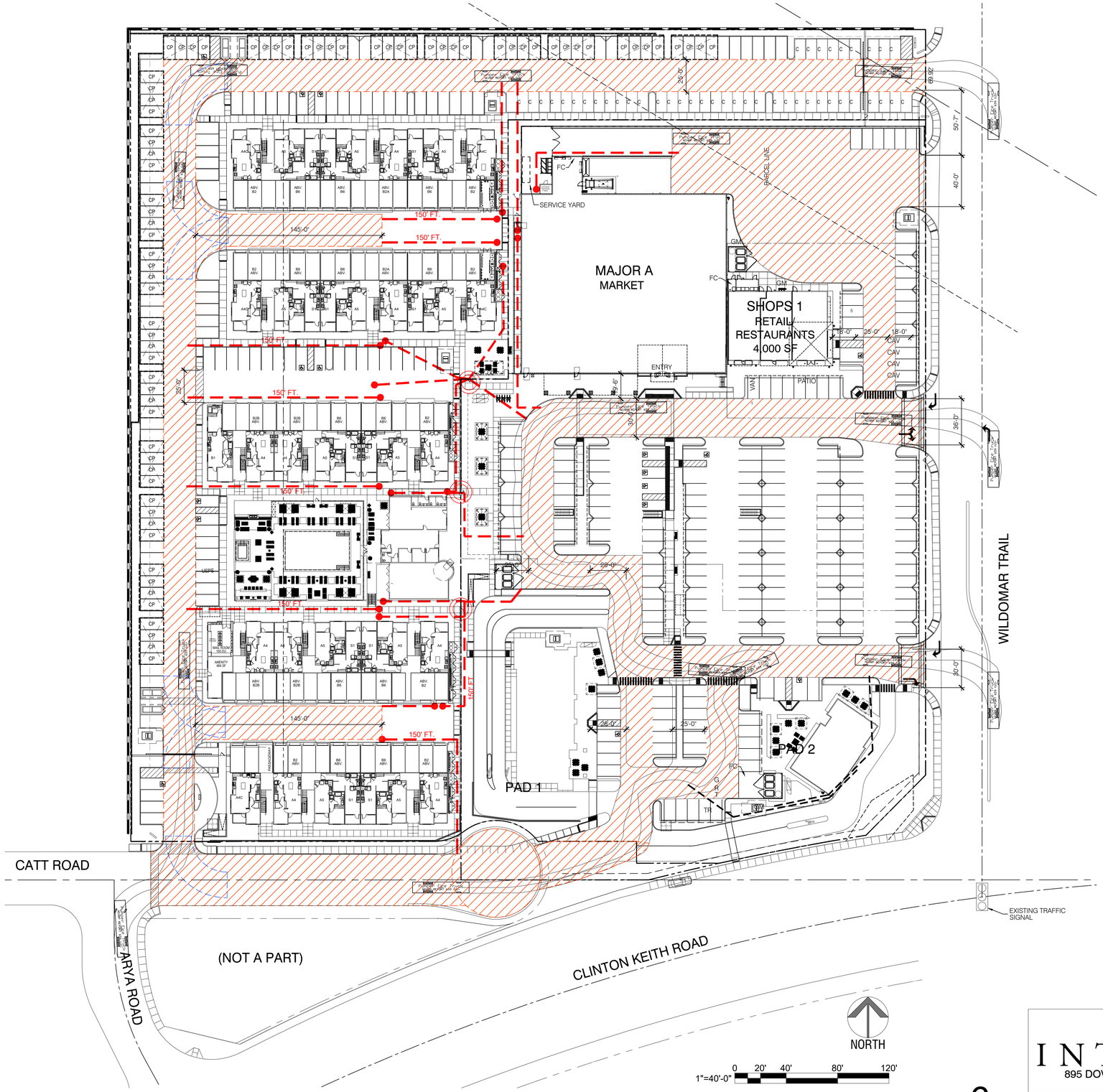
PROJECT AREA EXHIBIT

TENTATIVE PARCEL MAP NO. 38333

NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 06-23-2022
JOB #21-994

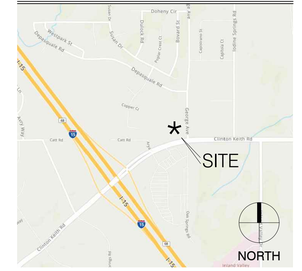
SHEET 1



EMERGENCY ACCESS SITE PLAN

6

VICINITY



LEGEND & SYMBOLS

DDC	DOUBLE DETECTOR CHECK VALVE- REF: CIVIL DRAWINGS
FDC	FIRE DEPARTMENT CONNECTION- REF: CIVIL DRAWINGS
FC	FIRE CONTROL/ SPRINKLER RISER
FH	FIRE HYDRANT- REF: CIVIL DRAWINGS PROVIDE BLUE REFLECTOR @ CL DRIVEWAY PER FIRE DEPT REQUIREMENTS
G	GREEN WASTE DUMPTSER
GM	GAS METER LOCATION- REF: PLUMBING & GAS UTILITY DRAWINGS
PIV	POST INDICATOR VALVE- REF: CIVIL DRAWINGS
R	RECYCLE DUMPSTER
T	TRASH DUMPSTER
TR	TRANSFORMER

LEGEND

THE PROJECT COMPLIES WITH FIRE APPARATUS ACCESS TO 3- STORY BUILDG

UP TO 150 FIRE HOSE PULL

FIRE LANE - MIN. CLEAR DIMENSION

HAMMERHEAD

FIRE TRUCK TURNING RADIUS

KNOX BOX

EMERGENCY ACCESS SITE PLAN SCHEME Hv5

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

2601



1"=40'-0" 0 20' 40' 80' 120'

CONCEPTUAL OPEN SPACE PLAN-RESIDENTIAL

7

OPEN SPACE PROVIDED:

PRIVATE OPEN SPACE:	10,992 SF
COMMON OPEN SPACE >20':	18,636 SF
CLUB/FITNESS:	3,728 SF
COMMON OPEN SPACE <20':	12,535 SF
SETBACK BUFFER:	12,259 SF
TOTAL PROV.	58,150 SF (388 SF/DU)

NOTES:
1. STANDARD PARKING SIZE 9'-0"X18'-0"; COMPACT PARKING SIZE 8'-6"X16'-0"
2. STANDARD GARAGE SIZE 10'X20'
3. PRIVATE OPEN SPACE: MINIMUM 7' DIMENSION
4. PARKING TO BE CONVENIENTLY DISTRIBUTED THROUGHOUT THE SITE AND WITHIN 200 FEET OF THE BUILDING/ UNIT THEY SERVE.

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

OPEN SPACE PLAN-
RESIDENTIAL
SCHEME Hv5

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

SENSITIVE HABITAT AREA
(NOT A PART)



EXISTING
SINGLE-FAMILY RESIDENTIAL
(NOT A PART)

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

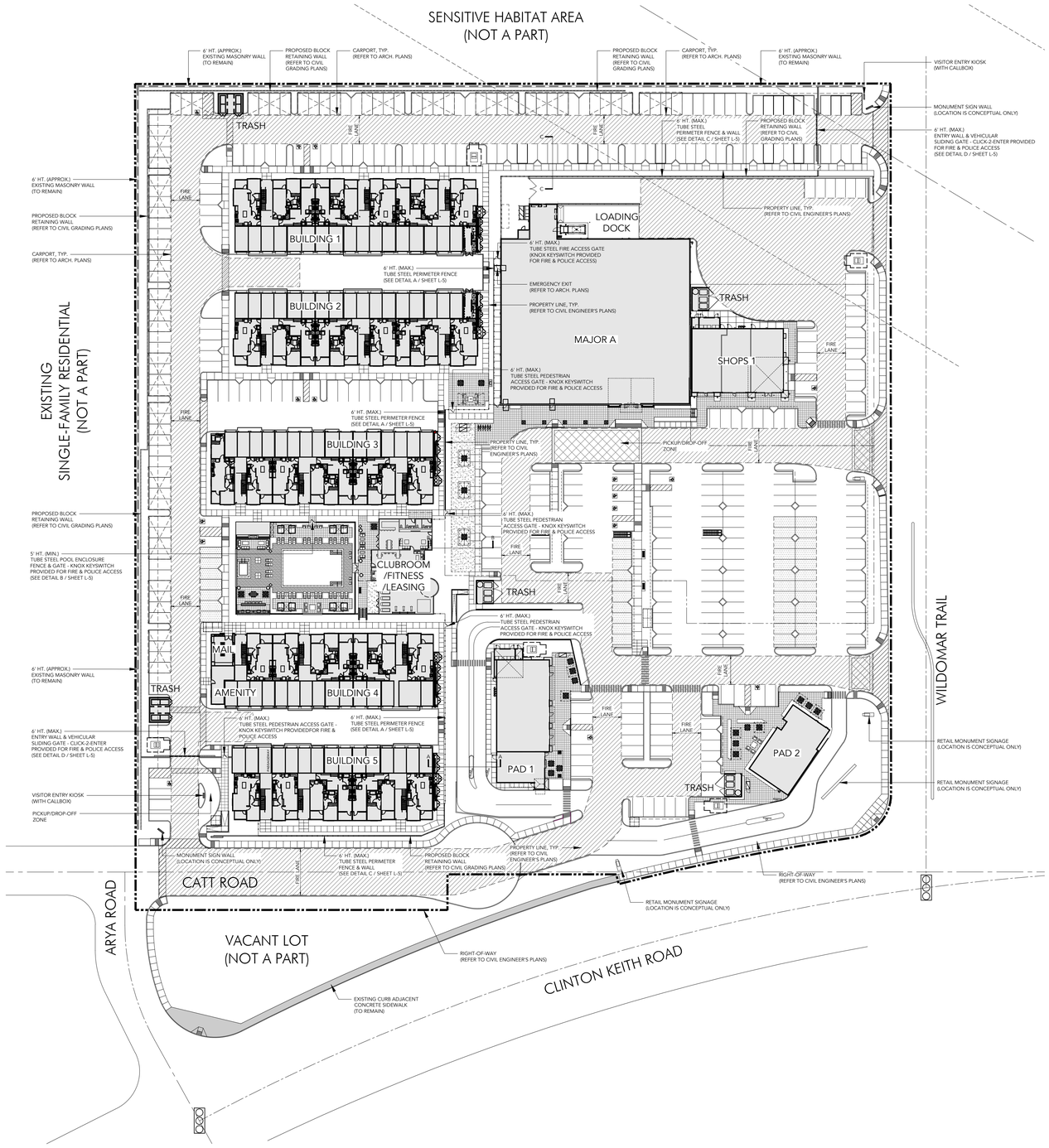
1"=50'-0" SCALE
0 50 100

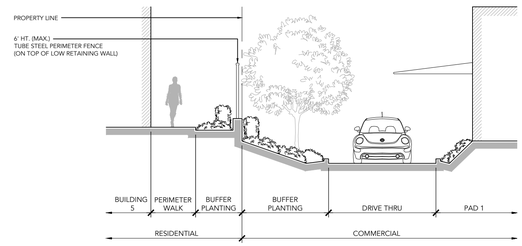
NORTH

SAGE INVESTCO
INTRACORP
Building the Extraordinary

URBAN ARENA

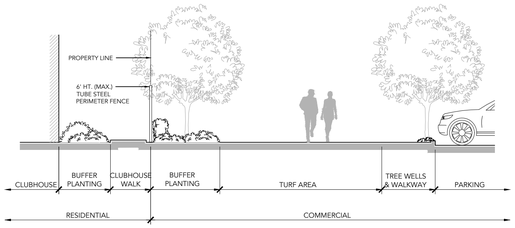
LANDSCAPE ILLUSTRATIVE PLAN | L-1





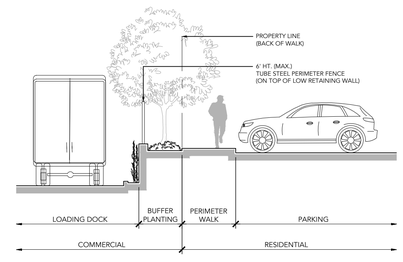
SECTION A-A

SCALE: 1/8" = 1'-0"



SECTION B-B

SCALE: 1/8" = 1'-0"



SECTION C-C

SCALE: 1/8" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=50'-0" SCALE

0 50 100

NORTH

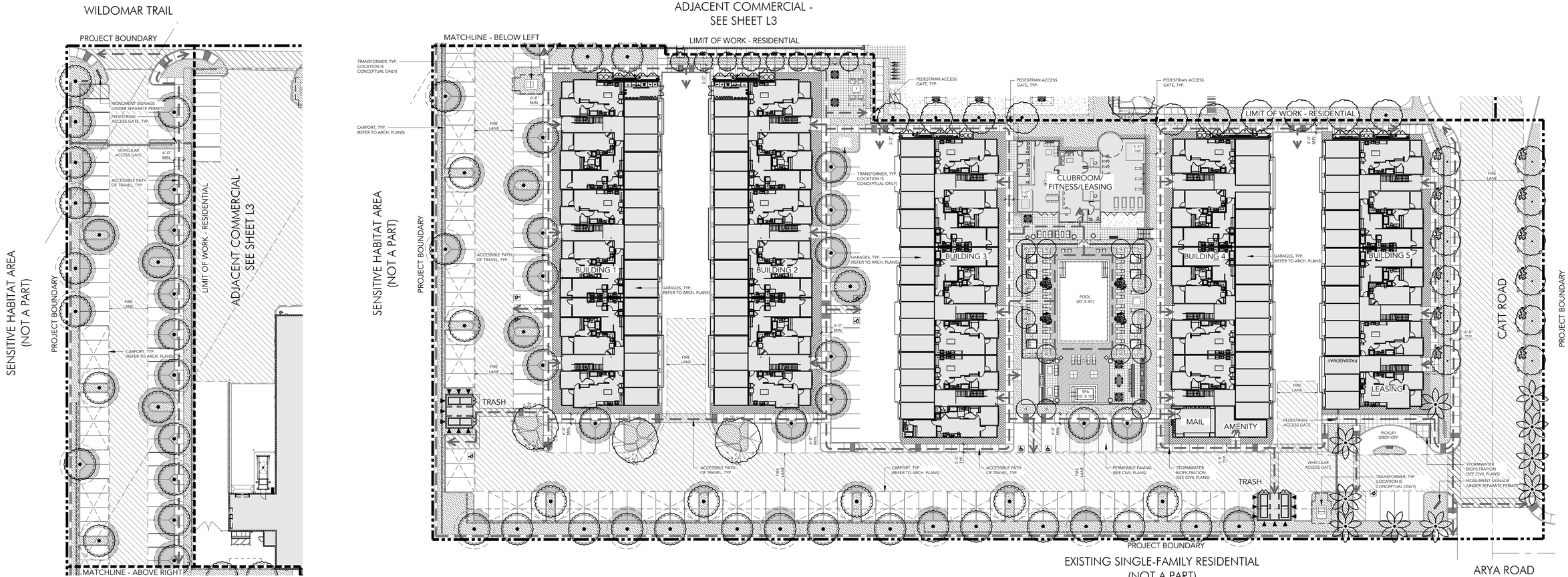
LANDSCAPE OVERALL PLAN | L-2

SAGE INVESTCO

INTRACORP

Building the Extraordinary

URBAN ARENA



LANDSCAPE NOTES

A. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, MATURE SPECIMEN TREES IN THIRTY-SIX INCH (36") AND FORTY-EIGHT INCH (48") BOX TREES SHALL BE PROVIDED FOR LARGE PROJECT IN SUFFICIENT QUANTITY TO PROVIDE VARIETY AND EMPHASIS ON MAIN FOCAL AREAS. SUBJECT TO REVIEW AND APPROVAL OF THE DIRECTOR AND LANDSCAPE CONSULTANT.

B. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT SHALL INCLUDE 3 TO 4 FOOT HIGH LANDSCAPE SCREENING ELEMENTS ALONG ENTIRE PARKING FRONTAGE AT STREETS AND DRIVE AISLES. A COMBINATION OF LANDSCAPE BERMS, GROUPS OF SCREENING SHRUBS, OR ENHANCED WALLS SHALL BE UTILIZED.

C. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL AVOID PLANTS THAT REQUIRE CUTTING BACK TO KEEP THEM WITHIN A SPECIFIC AREA OR AT A TRIMMED HEIGHT. PROVIDED SPACE FOR PLANTS TO GROW TO MATURITY AND KEEP THEIR NATURAL SHAPE.

D. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL SELECT PLANT MATERIALS WITHIN VEHICULAR LINE OF SIGHT IMPACT AREAS LIMITED TO A MAXIMUM OF 30" NATURAL HEIGHT.

E. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT WILL AVOID MONOCULTURE PLANTING, PROVIDE ADDITIONAL PLANT MATERIAL WITH VARYING CHARACTERISTICS. FINAL SHRUB LAYOUT WILL NOT APPEAR AS MASSES, NO SPOTTY PLACEMENT OF SINGULAR SHRUBS.

F. LANDSCAPE ARCHITECT RECOGNIZES THAT THIS PROJECT IS LOCATED WITHIN THE 'VERY HIGH FIRE SEVERITY ZONE' AND WILL BE SUBJECT TO REVIEW BY RIVERSIDE COUNTY OFFICE OF THE FIRE MARSHAL FOR FUEL MODIFICATION REQUIREMENTS.

G. NO COMBUSTIBLE MULCH WILL BE ALLOWED TO BE LOCATED WITHIN 5' OF ANY BUILDING STRUCTURE.

WATER USE CALCULATIONS

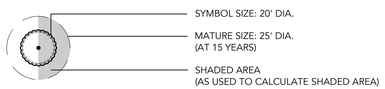
TOTAL LANDSCAPE AREA 29,086 SF

MAXIMUM APPLIED WATER ALLOWANCE (MAWA)
MAWA = (ETO) X (0.7) X (LA) X (0.62) = GALLONS PER YEAR
MAWA = 61.65 X 0.7 X 29,086 X 0.62 = 778,228 GALLONS PER YEAR

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

SHADED PARKING CALCULATIONS

OPEN PARKING	130 SPACES
COVERED PARKING	76 SPACES
TOTAL AREA OF OPEN PARKING SPACES	19,862 SF
REQUIRED PERCENTAGE OF PARKING AREA TO BE SHADED	50% (50+ SPACES)
TOTAL SHADE PROVIDED	10,603 SF
PERCENT OF OPEN PARKING SHADED	53 %



UTILITY COORDINATION

PLEASE NOTE THAT THE LOCATION OF ALL UTILITY STRUCTURES IS CONCEPTUAL ONLY AND WILL BE COORDINATED FURTHER DURING THE DESIGN DEVELOPMENT AND CONSTRUCTION DOCUMENTATION PHASE. CONCEPTUAL LIGHTING PLAN IS PROVIDED WITHIN THE DRAWING SET, REFER TO LIGHTING PLANS.

LANDSCAPE ZONES AND PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
STREET TREES SUCH AS:			
	CERCIDIUM X 'DESERT MUSEUM'	'DESERT MUSEUM' PALO VERDE	L
	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	M
	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	M
	PLATANUS X ACERIFOLIA	LONDON PLANETREE	M
	QUERCUS AGRIFOLIA	COAST LIVE OAK	L
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	M
PARKING TREES SUCH AS:			
	CASSIA LEPTOPHYLLA	GOLD MEDALLION TREE	M
	CUPANIOPSIS ANACARDIOIDES	CARROT WOOD	M
	GLEDITSIA TRIACANTHOS	HONEY LOCUST	L
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	PYRUS KAWAKAMII	EVERGREEN PEAR	M
	RHUS LANCEA	AFRICAN SUMAC	L
	ULMUS PARVIFOLIA	CHINESE ELM	L
ACCENT TREES SUCH AS:			
	ARBUTUS 'MARINA'	'MARINA' STRAWBERRY TREE	M
	BAUHINIA X BLAKEANA	HONG KONG ORCHID TREE	M
	GINKGO BILOBA	MAIDENHAIR TREE	M
	JACARANDA MIMOSIFOLIA	JACARANDA	M
	MAGNOLIA GRANIFLORA	SOUTHERN MAGNOLIA	M
	TABEBUIA CHRYSOTRICHA	GOLDEN TRUMPET TREE	M
	TABEBUIA IMPETIGINOSA	PINK TRUMPET TREE	M
SCREEN TREES SUCH AS:			
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	M
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	M
	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	M
	TIPUANU TIPU	TIPU TREE	M
PALM TREES SUCH AS:			
	ARCHONTOPHOENIX CUNNINGHAMIANA	KING PALM	M
	BRAHEA ARMATA	MEXICAN BLUE PALM	L
	PHOENIX DACTYLIFERA	DATE PALM	L
	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	L
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	L

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
FOUNDATION PLANTS SUCH AS:			
	LIGUSTRUM JAPONICUM 'TEXANUM'	WAX LEAF PRIVET	M
	PITTOSPORUM TOBIRA	MOCK ORANGE	M
	PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	M
	RHAPHIOLEPIS INDICA 'CLARA'	'CLARA' INDIAN HAWTHORN	M
	RHAPHIOLEPIS UMBELLATA 'MINOR'	YEDDO HAWTHORN	M
	XYLOSMA CONGESTA 'COMPACTA'	SHINY XYLOSMA	M
SHRUBS SUCH AS:			
	ALOE X SPECIES	ALOE	L
	AGAVE X SPECIES	AGAVE	L
	ARBUTUS UNEDO 'COMPACTA'	DWARF STRAWBERRY TREE	L
	ASPARAGUS DENSIFLORUS 'MYERS'	FOXTAIL FERN	M
	BOUGAINVILLEA 'LA JOLLA'	'LA JOLLA' BOUGAINVILLEA	L
	CALLISTEMON VIMINALIS 'LITTLE JOHN'	WEEPING BOTTLEBRUSH	M
	CAREX X SPECIES	SEDGE	L
	CARISSA MACROCARPA 'TUTTLE'	'TUTTLE' DWARF NATAL PLUM	M
	CHONDROPETALUM TECTORUM 'EL CAMPO'	'EL CAMPO' SMALL CAPE RUSH	M
	CORDYLINE X SPECIES	CORDYLINE	M
	DASYLIRION SPECIES	DESERT SPOON	L
	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	M
	DIETES GRANDIFLORA	FORTNIGHT LILY	M
	JUNCUS PATENS	CALIFORNIA GRAY RUSH	L
	LEUCADENDRON X 'SAFARI SUNSHINE'	CONEBUSH	M
	LOMANDRA X SPECIES	MAT RUSH	M
	PEDILANTHUS MACROCARPUS	SLIPPER	VL
	PHILODENDRON XANADU	XANADU PHILODENDRON	M
	PHORMIUM 'DARK DELIGHT'	'DARK DELIGHT' PURPLE FLAX	M
	SANSEVIERIA TRIFASCIATA	MOTHER-IN-LAW'S TOUNGE	L
	SESLERIA X 'GREENLEE'	'GREENLEE' MOOR GRASS	M
	STRELITZIA REGINAE	BIRD OF PARADISE	M
	WESTRINGIA FRUTICOSA 'SMOKEY'	'SMOKEY' WESTRINGIA	L
	ZAMIA FURFURACEA	CARDBOARD PALM	M

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
GROUNDCOVERS SUCH AS:			
	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BRUSH	L
	CAREX PRAEGRACILIS	CALIFORNIA FIELD SEDGE	M
	CARISSA MACROCARPA 'GREEN CARPET'	'GREEN CARPET' NATAL PLUM	M
	COTONEASTER SPECIES	COTONEASTER	M
	FESTUCA GLAUCA 'ELIJAH BLUE'	'ELIJAH BLUE' FESCUE	M
	MYOPORUM PARVIFOLIUM	PROSTRATE MYOPORUM	L
	ROSA SPECIES	CARPET ROSE	M
	SENECIO SERPENS	BLUE CHALKSTICKS	L
	TRADESCANTIA PALLIDA 'PURPLE HEART'	PURPLE QUEEN SPIDERWORT	M
VINES SUCH AS:			
	FICUS PUMILA	CLIMBING FIG	M
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	M

GENERAL NOTES

ALL LANDSCAPING, IRRIGATION AND RELATED IMPROVEMENTS SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF WILDOMAR, THE COUNTY OF RIVERSIDE (AS REQUIRED), RIVERSIDE COUNTY FIRE DEPARTMENT AND THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. REFERENCE THE CITY OF WILDOMAR MUNICIPAL CODE CHAPTERS 17.188 (OFF-STREET VEHICULAR PARKING STANDARDS) AND 17.276 (WATER-EFFICIENT LANDSCAPES) AND APPLICABLE SECTIONS OF THE COUNTY OF RIVERSIDE MUNICIPAL CODE (ORDINANCES 348 - LAND USE, 457 - CALIFORNIA BUILDING CODE (EROSION CONTROL), 460 - SUBDIVISION, AND 461 - ROAD IMPROVEMENTS), THE COUNTYWIDE DESIGN STANDARDS & GUIDELINES (JANUARY 2004), GUIDE TO CALIFORNIA FRIENDLY LANDSCAPING (DECEMBER 2009), CALIFORNIA FRIENDLY PLANT LIST (MARCH 2013), FIRE DEPARTMENT REQUIREMENTS, OAK TREE MANAGEMENT GUIDELINES, AND THE REQUIREMENTS OF THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. IRRIGATION SYSTEM SHALL MINIMIZE THE USE OF OVERHEAD SPRAY TYPE SYSTEMS AND INCORPORATE DRIP OR BUBBLER TYPE IRRIGATION SYSTEMS.

ALL LANDSCAPE IMPROVEMENTS DEPICTED IN THIS DRAWING SET ARE TO BE MAINTAINED BY PRIVATE PROPERTY ASSOCIATION(S) OR HOMEOWNERS ASSOCIATION(S).

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=30'-0" SCALE
0 30 60

NORTH

LANDSCAPE RESIDENTIAL ENLARGEMENT PLAN | L-3

SAGE INVESTCO
INTRACORP
Building the Extraordinary
URBAN ARENA

WATER USE CALCULATIONS

TOTAL LANDSCAPE AREA 23,991 SF

MAXIMUM APPLIED WATER ALLOWANCE (MAWA)
MAWA = (ETO) X (0.7) X (LA) X (0.62) = GALLONS PER YEAR
MAWA = 61.65 X 0.7 X 23,991 X 0.62 = 641,905 GALLONS PER YEAR

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

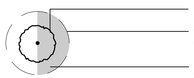
GENERAL NOTES

ALL LANDSCAPING, IRRIGATION AND RELATED IMPROVEMENTS SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF WILDOMAR, THE COUNTY OF RIVERSIDE (AS REQUIRED), RIVERSIDE COUNTY FIRE DEPARTMENT AND THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. REFERENCE THE CITY OF WILDOMAR MUNICIPAL CODE CHAPTERS 17.188 (OFF-STREET VEHICULAR PARKING STANDARDS) AND 17.276 (WATER-EFFICIENT LANDSCAPES) AND APPLICABLE SECTIONS OF THE COUNTY OF RIVERSIDE MUNICIPAL CODE (ORDINANCES 348 - LAND USE, 457 - CALIFORNIA BUILDING CODE (EROSION CONTROL), 460 - SUBDIVISION, AND 461 - ROAD IMPROVEMENTS), THE COUNTYWIDE DESIGN STANDARDS & GUIDELINES (JANUARY 2004), GUIDE TO CALIFORNIA FRIENDLY LANDSCAPING (DECEMBER 2009), CALIFORNIA FRIENDLY PLANT LIST (MARCH 2013), FIRE DEPARTMENT REQUIREMENTS, OAK TREE MANAGEMENT GUIDELINES, AND THE REQUIREMENTS OF THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. IRRIGATION SYSTEM SHALL MINIMIZE THE USE OF OVERHEAD SPRAY TYPE SYSTEMS AND INCORPORATE DRIP OR BUBBLER TYPE IRRIGATION SYSTEMS.

ALL LANDSCAPE IMPROVEMENTS DEPICTED IN THIS DRAWING SET ARE TO BE MAINTAINED BY PRIVATE PROPERTY ASSOCIATION(S) OR HOMEOWNERS ASSOCIATION(S).

SHADED PARKING CALCULATIONS

PARKING PROVIDED	195 SPACES (OPEN)
TOTAL AREA OF PARKING SPACES	26,669 SF
REQUIRED PERCENTAGE OF PARKING AREA TO BE SHADED	50% (50+ SPACES)
TOTAL SHADE PROVIDED	16,054 SF
PERCENT OF OPEN PARKING SHADED	61 %



BICYCLE PARKING CALCULATIONS

CAR PARKING PROVIDED	195 SPACES
EMPLOYEE SPACES REQUIRED (1 BICYCLE SPACE PER 25 CAR SPACES)	8 BIKE PARKING SPACES (CLASS I LOCKERS OR CLASS II RACKS IN AN ENCLOSED LOCKABLE AREA)
EMPLOYEE SPACES PROVIDED	8 BIKE PARKING SPACES (4 CLASS I LOCKERS - 2 BIKES PER LOCKER)
PATRON & VISITOR SPACES REQUIRED (1 BICYCLE SPACE PER 33 CAR SPACES)	6 BIKE PARKING SPACES (CLASS II RACKS)
PATRON & VISITOR SPACES PROVIDED	6 BIKE PARKING SPACES (3 CLASS II BIKE RACKS - 2 BIKES PER RACK)

INTERIOR PARKING LANDSCAPE

PARKING PROVIDED	195 SPACES
TOTAL AREA OF PARKING SPACES	26,669 SF
REQUIRED PERCENTAGE TO BE LANDSCAPED	10% (50+ SPACES)
TOTAL INTERIOR PARKING LANDSCAPE	3,606 SF
PERCENT OF INTERIOR PARKING LANDSCAPE PROVIDED	13 %

UTILITY COORDINATION

PLEASE NOTE THAT THE LOCATION OF ALL UTILITY STRUCTURES IS CONCEPTUAL ONLY AND WILL BE COORDINATED FURTHER DURING THE DESIGN DEVELOPMENT AND CONSTRUCTION DOCUMENTATION PHASE. CONCEPTUAL LIGHTING PLAN IS PROVIDED WITHIN THE DRAWING SET, REFER TO LIGHTING PLANS.

LANDSCAPE NOTES

A. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, MATURE SPECIMEN TREES IN THIRTY-SIX INCH (36") AND FORTY-EIGHT INCH (48") BOX TREES SHALL BE PROVIDED FOR LARGE PROJECT IN SUFFICIENT QUANTITY TO PROVIDE VARIETY AND EMPHASIS ON MAIN FOCAL AREAS. SUBJECT TO REVIEW AND APPROVAL OF THE DIRECTOR AND LANDSCAPE CONSULTANT.

B. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT SHALL INCLUDE 3 TO 4 FOOT HIGH LANDSCAPE SCREENING ELEMENTS ALONG ENTIRE PARKING FRONTAGE AT STREETS AND DRIVE AISLES. A COMBINATION OF LANDSCAPE BERMS, GROUPS OF SCREENING SHRUBS OR ENHANCED WALLS SHALL BE UTILIZED.

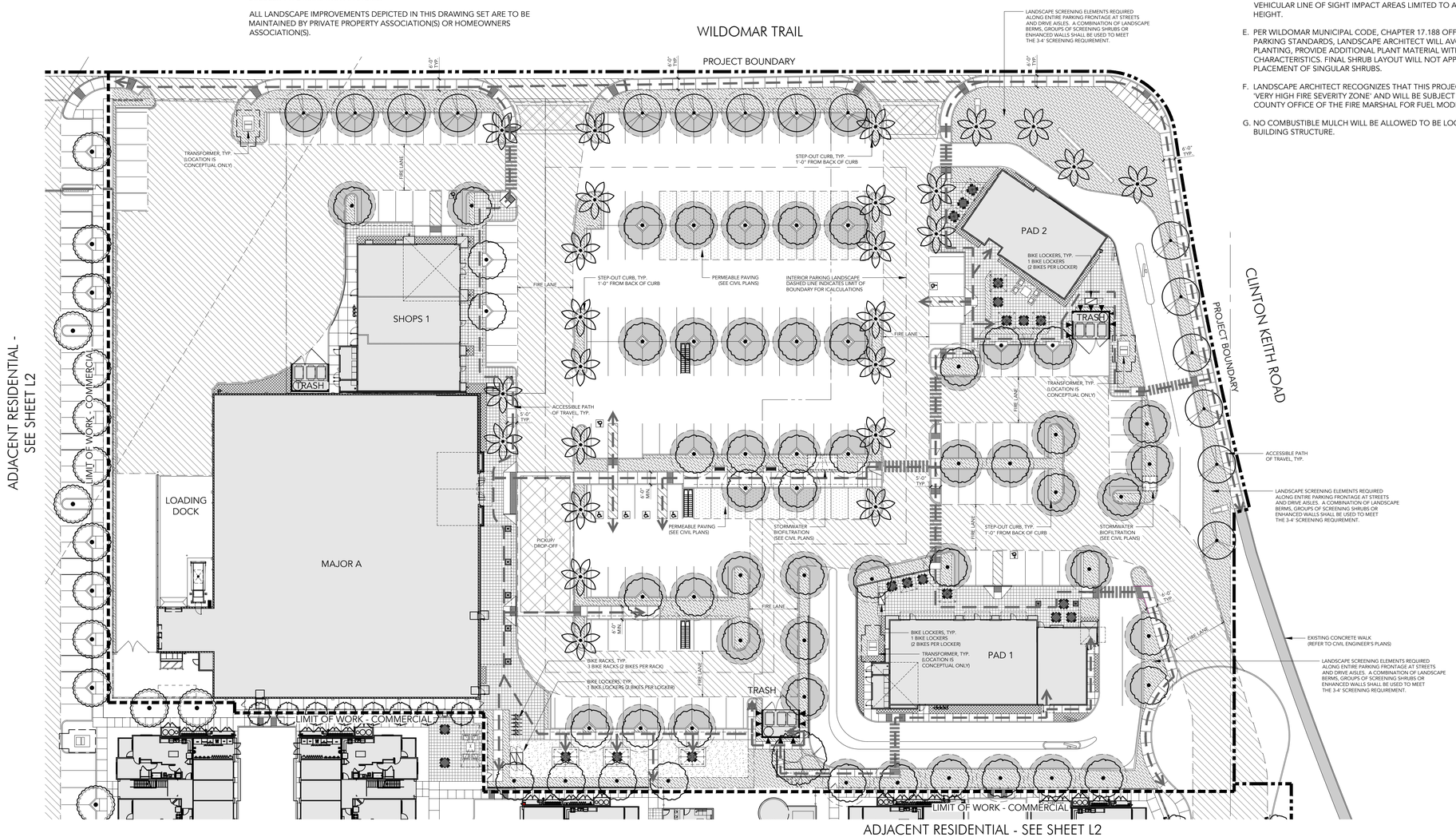
C. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL AVOID PLANTS THAT REQUIRE CUTTING BACK TO KEEP THEM WITHIN A SPECIFIC AREA OR AT A TRIMMED HEIGHT. PROVIDED SPACE FOR PLANTS TO GROW TO MATURITY AND KEEP THEIR NATURAL SHAPE.

D. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL SELECT PLANT MATERIALS WITHIN VEHICULAR LINE OF SIGHT IMPACT AREAS LIMITED TO A MAXIMUM OF 30" NATURAL HEIGHT.

E. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT WILL AVOID MONOCULTURE PLANTING, PROVIDE ADDITIONAL PLANT MATERIAL WITH VARYING CHARACTERISTICS. FINAL SHRUB LAYOUT WILL NOT APPEAR AS MASSES, NO SPOTTY PLACEMENT OF SINGULAR SHRUBS.

F. LANDSCAPE ARCHITECT RECOGNIZES THAT THIS PROJECT IS LOCATED WITHIN THE 'VERY HIGH FIRE SEVERITY ZONE' AND WILL BE SUBJECT TO REVIEW BY RIVERSIDE COUNTY OFFICE OF THE FIRE MARSHAL FOR FUEL MODIFICATION REQUIREMENTS.

G. NO COMBUSTIBLE MULCH WILL BE ALLOWED TO BE LOCATED WITHIN 5' OF ANY BUILDING STRUCTURE.



LANDSCAPE ZONES AND PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
STREET TREES SUCH AS:			
	CERCIDIUM X 'DESERT MUSEUM'	'DESERT MUSEUM' PALO VERDE	L
	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	M
	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	M
	PLATANUS X ACERIFOLIA	LONDON PLANETREE	M
	QUERCUS AGRIFOLIA	COAST LIVE OAK	L
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	M
PARKING TREES SUCH AS:			
	CASSIA LEPTOPHYLLA	GOLD MEDALLION TREE	M
	CUPANIOPSIS ANACARDIOIDES	CARROT WOOD	M
	GLEDITSIA TRIACANTHOS	HONEY LOCUST	L
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	PYRUS KAWAKAMII	EVERGREEN PEAR	M
	RHUS LANCEA	AFRICAN SUMAC	L
	ULMUS PARVIFOLIA	CHINESE ELM	L
ACCENT TREES SUCH AS:			
	ARBUTUS 'MARINA'	'MARINA' STRAWBERRY TREE	M
	BAUHINIA X BLAKEANA	HONG KONG ORCHID TREE	M
	GINKGO BILOBA	MAIDENHAIR TREE	M
	JACARANDA MIMOSIFOLIA	JACARANDA	M
	MAGNOLIA GRANIFLORA	SOUTHERN MAGNOLIA	M
	TABEBUIA CHRYSOTRICHA	GOLDEN TRUMPET TREE	M
	TABEBUIA IMPETIGINOSA	PINK TRUMPET TREE	M
SCREEN TREES SUCH AS:			
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	M
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	M
	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	M
	TIPUANU TIPU	TIPU TREE	M
PALM TREES SUCH AS:			
	ARCHONTOPHOENIX CUNNINGHAMIANA	KING PALM	M
	BRAHEA ARMATA	MEXICAN BLUE PALM	L
	PHOENIX DACTYLIFERA	DATE PALM	L
	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	L
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	L
FOUNDATION PLANTS SUCH AS:			
	LIGUSTRUM JAPONICUM 'TEXANUM'	WAX LEAF PRIVET	M
	PITTOSPORUM TOBIRA	MOCK ORANGE	M
	PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	M
	RHAPHIOLEPIS INDICA 'CLARA'	'CLARA' INDIAN HAWTHORN	M
	RHAPHIOLEPIS UMBELLATA 'MINOR'	YEDDO HAWTHORN	M
	XYLOSMA CONGESTA 'COMPACTA'	SHINY XYLOSMA	M
SHRUBS SUCH AS:			
	ALOE X SPECIES	ALOE	L
	AGAVE X SPECIES	AGAVE	L
	ARBUTUS UNEDO 'COMPACTA'	DWARF STRAWBERRY TREE	L
	ASPARAGUS DENSIFLORUS 'MYERS'	FOXTAIL FERN	M
	BOUGAINVILLEA 'LA JOLLA'	'LA JOLLA' BOUGAINVILLEA	L
	CALLISTEMON VIMINALIS 'LITTLE JOHN'	WEEPING BOTTLEBRUSH	M
	CAREX X SPECIES	SEDGE	L
	CARISSA MACROCARPA 'TUTTLE'	'TUTTLE' DWARF NATAL PLUM	M
	CHONDROPETALUM TECTORUM 'EL CAMPO'	'EL CAMPO' SMALL CAPE RUSH	M
	CORDYLINE X SPECIES	CORDYLINE	M
	DASYLIRION SPECIES	DESERT SPOON	L
	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	M
	DIETES GRANDIFLORA	FORTNIGHT LILY	M
	JUNCUS PATENS	CALIFORNIA GRAY RUSH	L
	LEUCADENDRON X 'SAFARI SUNSHINE'	CONEBUSH	M
	LOMANDRA X SPECIES	MAT RUSH	M
	PEDILANTHUS MACROCARPUS	SLIPPER	VL
	PHILODENDRON XANADU	XANADU PHILODENDRON	M
	PHORMIUM 'DARK DELIGHT'	'DARK DELIGHT' PURPLE FLAX	M
	SANSEVIERIA TRIFASCIATA	MOTHER-IN-LAW'S TOUNGE	L
	SESLERIA X 'GREENLEE'	'GREENLEE' MOOR GRASS	M
	STRELITZIA REGINAE	BIRD OF PARADISE	M
	WESTRINGIA FRUTICOSA 'SMOKEY'	'SMOKEY' WESTRINGIA	L
	ZAMIA FURFURACEA	CARDBOARD PALM	M
GROUNDCOVERS SUCH AS:			
	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BRUSH	L
	CAREX PRAEGRACILIS	CALIFORNIA FIELD SEDGE	M
	CARISSA MACROCARPA 'GREEN CARPET'	'GREEN CARPET' NATAL PLUM	M
	COTONEASTER SPECIES	COTONEASTER	M
	FESTUCA GLAUCA 'ELIJAH BLUE'	'ELIJAH BLUE' FESCUE	M
	MYOPORUM PARVIFOLIUM	PROSTRATE MYOPORUM	L
	ROSA SPECIES	CARPET ROSE	M
	SENECIO SERPENS	BLUE CHALKSTICKS	L
	TRADESCANTIA PALLIDA 'PURPLE HEART'	PURPLE QUEEN SPIDERWORT	M
VINES SUCH AS:			
	FICUS PUMILA	CLIMBING FIG	M
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	M

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=30'-0" SCALE 0 30 60

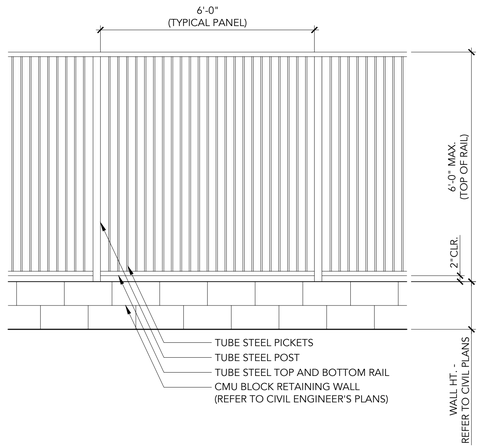
NORTH

LANDSCAPE COMMERCIAL ENLARGEMENT PLAN | L-4

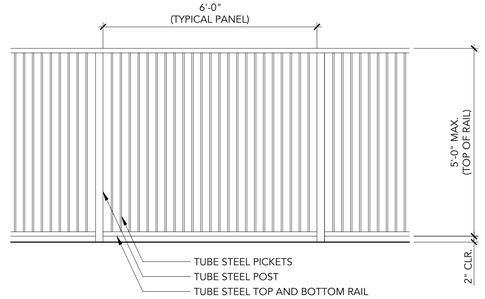
SAGE INVESTCO

INTRACORP
Building the Extraordinary

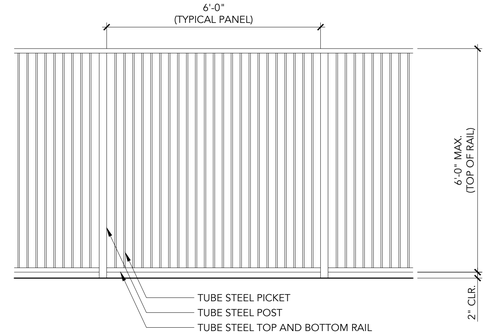
URBAN ARENA



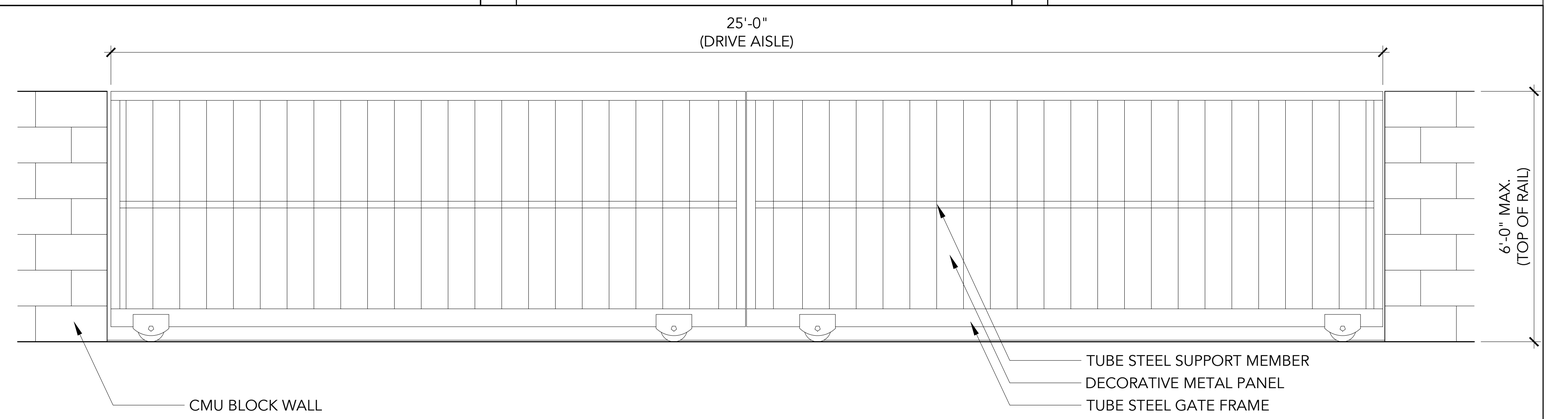
C | TUBE STEEL PERIMETER FENCE & WALL P-21.21.142-02 1/2" = 1'-0"



B | TUBE STEEL POOL ENCLOSURE FENCE P-21.21.142-03 1/2" = 1'-0"



A | TUBE STEEL PERIMETER FENCE P-21.21.142-01 1/2" = 1'-0"



D | ENTRY WALL AND VEHICULAR GATE P-21.21.142-04 3/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

LANDSCAPE CONCEPTUAL DETAILS | L-5

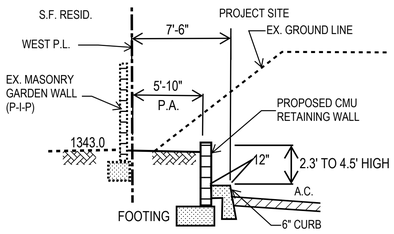
SAGE INVESTCO

INTRACORP
Building the Extraordinary

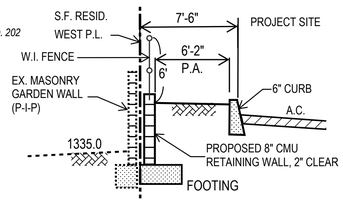
URBAN ARENA

CONSTRUCTION NOTES

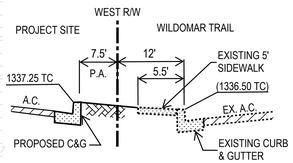
1. CONSTRUCT 3" AC/10" AB, PARKING STALLS
1A. CONSTRUCT 4" AC/14" AB, DRIVE AISLES
2. CONSTRUCT 6" PCC CURB ONLY
3. CONSTRUCT 6" PCC CURB & 18" GUTTER
4. CONSTRUCT 4" PCC SIDEWALK.
5. CONSTRUCT ACCESSIBLE CURB–CUT RAMP.
6. CONSTRUCT 3' WIDE TRUNCATED DOMES.
7. CONSTRUCT 4" MOUNTABLE CURB & GUTTER
8. INSTALL SD. DRAIN INLET GRATE AND DRAIN BOX.
9. INSTALL CATCH BASIN.
10. CONSTRUCT PCC COMMERCIAL DRIVEWAY PER CITY STD.
11. CONSTRUCT PCC RIBBON GUTTER, 3' WIDE
12. CONSTRUCT PCC ROLLED CURB, TYPE C, PER CITY STD. 202



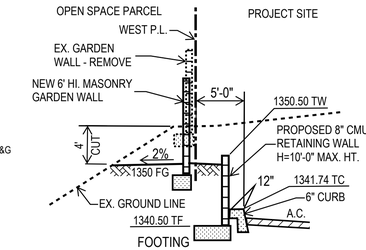
SECTION A-A
N.T.S.



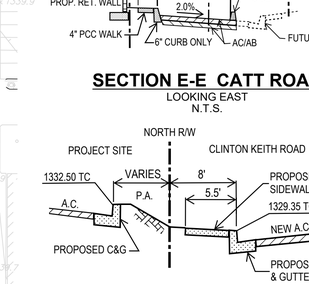
SECTION B-B
N.T.S.



SECTION D-D
N.T.S.

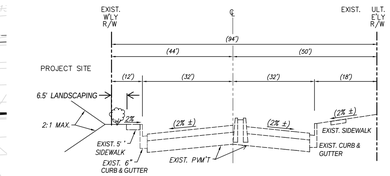


SECTION C-C
N.T.S.

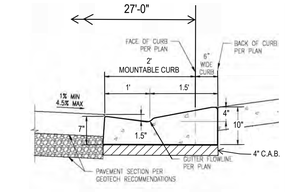


SECTION E-E CATT ROAD
LOOKING EAST
N.T.S.

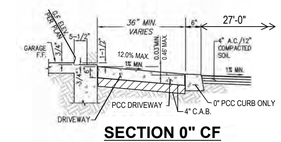
SECTION F-F
N.T.S.



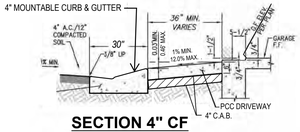
TYPICAL SECTION – WILDOMAR TRAIL
T.I.=8.5, R=34
N.T.S.



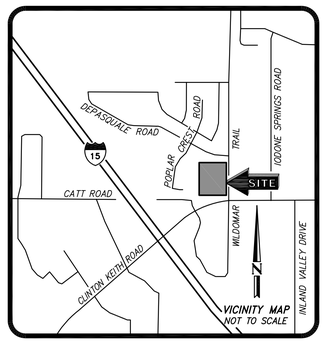
4" MOUNTABLE CURB AND GUTTER
N.T.S.



SECTION 0" CF



SECTION 4" CF



PROJECT AREA: 9.00 ACRES
TOTAL DISTURBED AREA: 10.05 ACRES

PRELIM. EARTHWORK QUANTITIES	
RAW CUT	67,340 CY
RAW FILL	22,390 CY
SOIL OVEREX.	67,160 CY
EARTH EXPORT	38,761 CY

REGISTERED PROFESSIONAL ENGINEER — RONALD W. SKLEPKO — No. C46216 Exp. 12-31-2022 — CIVIL — STATE OF CALIFORNIA

GRAPHIC SCALE: 1"=50'

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PREPARED BY: Ronald W. Sklepko 6-23-2022
RONALD W. SKLEPKO — DATE
R.C.E. No. C46216 EXP. 12–31– 2022

CONCEPTUAL GRADING PLAN
TENTATIVE PARCEL MAP NO. 38333
NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 6-23-2022
JOB #21-994

SHEET **C-1**

PROPERTY ADDRESS:
24850-23980 CATT ROAD
WILDOMAR, CA 92595

PROPERTY OWNERS:
DAMAS CLINTON KEITH, LLC
3225 McLEOD DR., SUITE 777
LAS VEGAS, NV 89121
APN: 376-420-015 & 021

ARAM PROPERTIES, LLC
3225 McLEOD DR., SUITE 777
LAS VEGAS, NV 89121
APN: 376-420-016 & 017

DEVELOPERS:
SAGE INVESTCO, LLC
4350 VON KARMAN AVE., SUITE 200
NEWPORT BEACH, CA 92660
TEL: 949-705-0426

INTRACORP SW, LLC
895 DOVE ST, SUITE 400
NEWPORT BEACH, CA 92660
TEL: 949-757-8470

ILENAME: M:\2021\21-994 Sage Investco Wildomar Retail\MA\21994 MAOI.dwg, LAST SAVED ON: Apr 13 2022 9:10am PLOTTED BY: BOB, ON: Apr 13 2022 11:01am, CFS:

OPEN SPACE - DRAINAGE COURSE

S.F. RESIDENTIAL

COPPER COURT

S.F. RESIDENTIAL

LANCER COURT

ARYA ROAD

CATT ROAD

ARYA ROAD

CLINTON KEITH ROAD

WILDOMAR TRAIL

CLINTON KEITH VILLAGE

7-ELEVEN

BLDG 1

BLDG 2

BLDG 3

BLDG 4

BLDG 5

MAJOR A

SHOPS 1

PAD 1

PAD 2

POOL

CLUBHOUSE

30' EASEMENT TO EVMWD FOR SEWER & WATER MAIN

PROPOSED 30' EASEMENT TO EVMWD FOR SEWER & WATER

20' EASEMENT TO EVMWD FOR WATER MAIN

20' EASEMENT TO EVMWD FOR WATER MAIN

20' EASEMENT TO EVMWD FOR WATER MAIN

20' EASEMENT TO EVMWD FOR WATER MAIN

20' EASEMENT TO EVMWD FOR WATER MAIN

MODULAR WETLAND UNIT 8'x16'

MODULAR WETLAND UNIT, 8'x16'

MODULAR WETLAND UNIT, 8'x8'

UNDERGROUND DETENTION CHAMBERS

HYDRODYNAMIC SEPARATOR

HYDRODYNAMIC SEPARATOR

OUTLET CONTROL MH

OUTLET CONTROL MH

EXISTING HEADWALL TO REMAIN

PROPOSED R/W

POWER POLE TO BE REMOVED

POWER POLE TO BE REMOVED

EX. STREET LIGHT

EX. 54" RCP STORM DRAIN

NEW STREET LIGHT

EX. C.B.

NEW C.B.

NEW STREET LIGHT

EX. STREET LIGHT

EX. 72" RCP STORM DRAIN

NEW STREET LIGHT

50' 0' 50' 100' 150'

GRAPHIC SCALE: 1"=50'

REGISTERED PROFESSIONAL ENGINEER RONALD W. SKLEPKO No. C46216 Exp. 12-31-2022 CIVIL STATE OF CALIFORNIA

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning

160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PREPARED BY: Ronald W. Sklepko
RONALD W. SKLEPKO
6-23-2022
DATE

R.C.E. No. C46216 EXP. 12-31-2022

CONCEPTUAL UTILITY PLAN

TENTATIVE PARCEL MAP NO. 38333

NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 6-23-2022
JOB #21-994

SHEET C-2

FILENAME: M:\2021\21-994 Sage Investco Wildomar Retail\MA\21994 MA01.dwg, LAST SAVED ON: Apr 13 2022 9:10am PLOTTED BY: BOB, ON: Apr 13 2022 11:01am, CFG:

IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

TENTATIVE PARCEL MAP NO. 38333

BEING A SUBDIVISION OF PARCELS 1, 2, 3 AND 4 OF PARCEL MAP 8705
PER BOOK 36, PAGE 69 OF MAPS RECORDS OF RIVERSIDE COUNTY

DATE OF FIELD SURVEY
JULY, 2021

TAX PARCEL NO.
376-410-015, 376-410-016,
376-410-017, 376-410-021

TITLE INFORMATION

THE TITLE INFORMATION SHOWN HEREON IS PER PRELIMINARY REPORT FOR TITLE INSURANCE NO. OSA-6544937 DATED APRIL 28, 2021 AS PREPARED BY FIRST AMERICAN TITLE COMPANY, SANTA ANA, CA [TITLE OFFICER: RIZZA WALKER, TELEPHONE: (714) 250-3098] NO RESPONSIBILITY OF CONTENT, COMPLETENESS OR ACCURACY OF SAID COMMITMENT IS ASSUMED BY THIS MAP OR THE SURVEYOR.

RECORD OWNER

DAMAS CLINTON KEITH LLC, AS TO AN UNDIVIDED 40% INTEREST AND 24850-23980 CATT RD TRUST DATED NOVEMBER 27, 2020, LAHN VALLEY LLC A WYOMING LIMITED LIABILITY COMPANY, ITS SUCCESSOR OR SUCCESSORS IN INTEREST, AS TRUSTEE, AS TO AN UNDIVIDED 60% INTEREST AS TENANTS IN COMMON, AS TO PARCELS ONE AND TWO;

ARAM PROPERTIES, LLC., A CALIFORNIA LIMITED LIABILITY COMPANY, AS TO PARCELS THREE AND FOUR

LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL ONE:
PARCEL 4 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL TWO:
PARCEL 1 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL THREE:
PARCEL 2 OF PARCEL MAP 8705 IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN ON FILE IN BOOK 36, PAGE 69 OF PARCEL MAPS IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL FOUR:
PARCEL 3 OF PARCEL MAP NO. 8705, AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF PARCEL MAPS, RIVERSIDE COUNTY RECORDS.

TITLE EASEMENTS

THE FOLLOWING MATTERS AFFECT PARCEL ONE:

4 AN EASEMENT IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY, ITS SUCCESSORS AND ASSIGNS FOR EITHER OR BOTH POLE LINES, CONDUITS OR UNDERGROUND FACILITIES AND INCIDENTAL PURPOSES, RECORDED NOVEMBER 16, 1954 AS BOOK 1654, PAGE 530 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - SAID DOCUMENT DOES NOT PROVIDE A WIDTH - CENTERLINE PLOTTED HEREON AS [A])

5 AN EASEMENT IN FAVOR OF THE COUNTY OF RIVERSIDE, FOR PUBLIC ROAD AND DRAINAGE PURPOSES, INCLUDING PUBLIC UTILITY AND PUBLIC SERVICES PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137039 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - PLOTTED HEREON AS [B])

6 AN EASEMENT IN FAVOR OF THE COUNTY OF RIVERSIDE, FOR DRAINAGE PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137040 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - PLOTTED HEREON AS [C])

7 AN EASEMENT IN FAVOR OF COUNTY OF RIVERSIDE, FOR DRAINAGE PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137041 OF OFFICIAL RECORDS.

THE INTEREST OF THE EASEMENT HOLDER HAS SINCE BEEN TRANSFERRED TO THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT BY INSTRUMENTS RECORDED MARCH 01, 2012 AS INSTRUMENT NO. 2012-093233 AND APRIL 20, 2012 AS INSTRUMENT NO. 2012-0181346, BOTH OF OFFICIAL RECORDS.

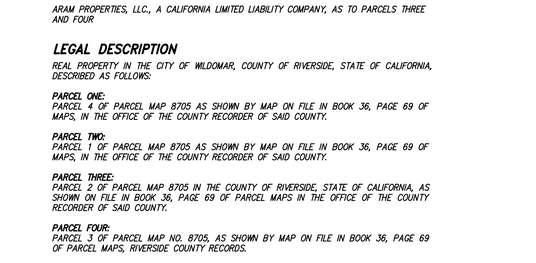
(DOCUMENTS AFFECT - PLOTTED HEREON AS [D])

BASIS OF BEARINGS

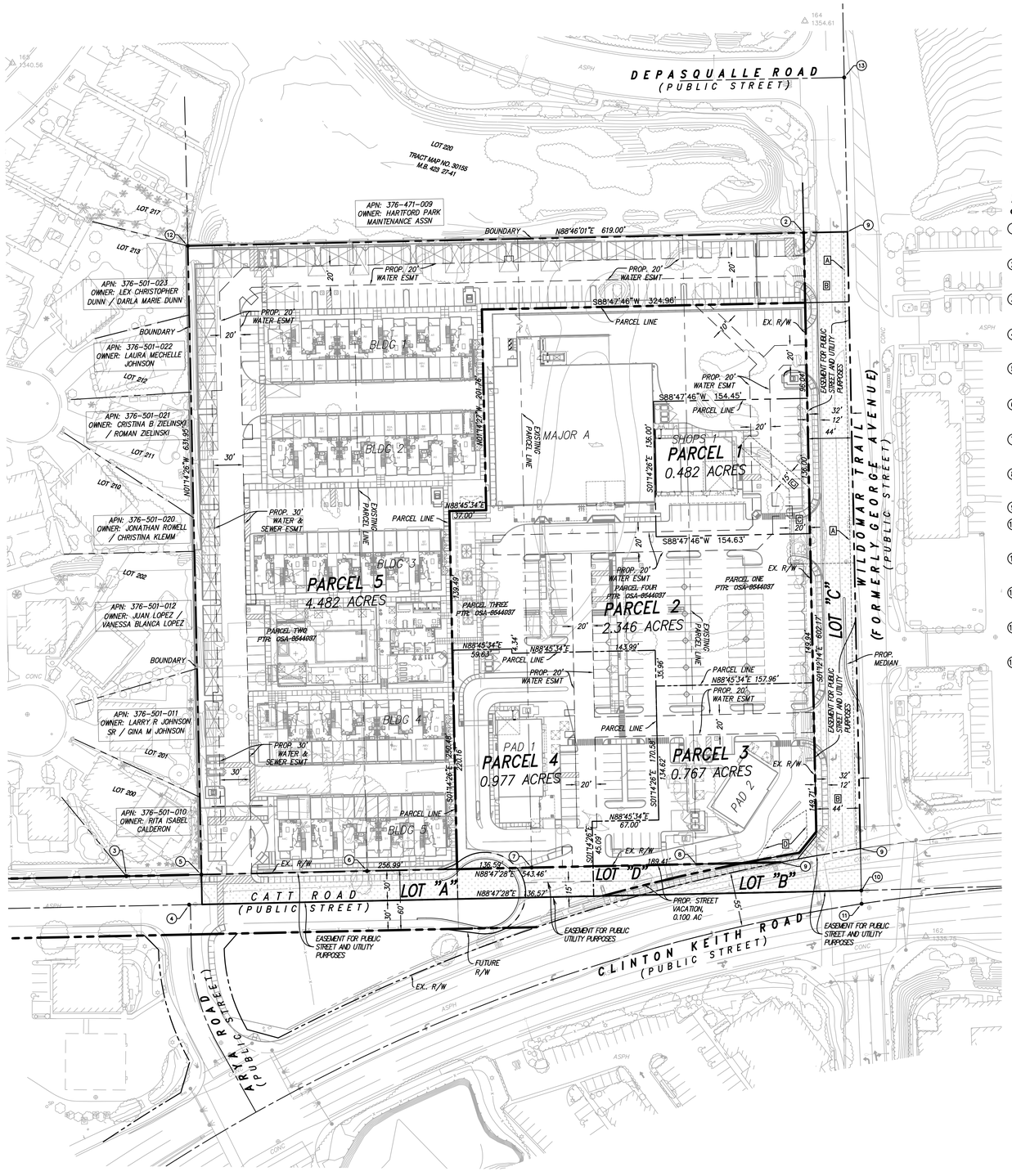
THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF CATT ROAD AS SHOWN ON PARCEL MAP NO. 8705, FILED IN PARCEL MAP BOOK 36, PAGE 69, BEING NORTH 88°47'20" EAST.

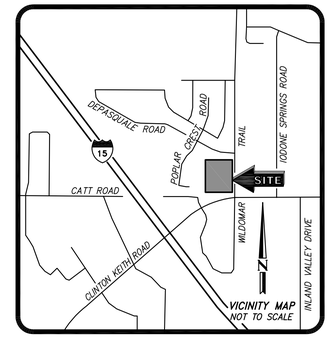
BENCH MARK

B.M. # T-59-81
3" ALUMINUM DISK IN CONC. CYLINDER. FROM THE INT. OF IVY ST. AND WASHINGTON ST., 3.6 MILES N.W. ON WASHINGTON-PALOMAR STS. TO THE INT. OF PALOMAR AND CLINTON KEITH RD., TO THE INT. OF CLINTON KEITH RD. AND GRAND AVE. IN THE N. COR. OF THE "T" INT.; 124.8' W. OF CLINTON KEITH RD.; 47.6' NO. OF GRAND AVE; 6' NE. OF A 1" I.P. W/PLASTIC PLUG LS 2606: 2' S. OF A 6' CHAIN LINK FENCE AROUND A S.C.E POWER STATION AND R.C.W.D. WELL SITE; 10' N. OF P.P. #2075052E; SET FIBERGLASS WITNESS POST 1' NORTH. ELEV. 1192.072



TYPICAL SECTION - WILDOMAR TRAIL
T.I.=8.5, R=34
N.T.S.





MONUMENT AND ESTABLISHMENT NOTES

- INDICATES FOUND MONUMENT AS NOTED BELOW.
1. INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, DOWN 0.6'. ACCEPTED AS POINT ON THE CENTERLINE OF CATT ROAD.
2. INDICATES FOUND LEAD, TACK AND TAG STAMPED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.
3. INDICATES FOUND 1" IRON PIPE (WITH PLASTIC PLUG) TAGGED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.
4. INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CATT ROAD AND ARYA DRIVE.
5. INDICATES FOUND 1" IRON PIPE (WITH PLASTIC PLUG) TAGGED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., DOWN 0.5'.
6. INDICATES FOUND 1" IRON PIPE TAGGED "L.S. 3365", PER R1, DOWN 0.4'. SAID MONUMENT IS LOCATED SOUTH 01°18'34" EAST, 0.11 FEET FROM THE SOUTH COMMON CORNER BETWEEN PARCELS 1 AND 2 OF R1.
7. INDICATES FOUND 1" IRON PIPE TAGGED "L.S. 3365", PER R1, DOWN 0.4'. SAID MONUMENT IS LOCATED SOUTH 01°17'00" WEST, 0.25 FEET FROM THE SOUTH COMMON CORNER BETWEEN PARCELS 2 AND 3 OF R1.
8. INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED THE SOUTH COMMON CORNER BETWEEN PARCELS 3 AND 4 OF R1 BY PRORATION USING R1 DATA.
9. INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED BY INTERSECTION.
10. INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CATT ROAD AND GEORGE AVENUE.
11. INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CLINTON KEITH ROAD AND GEORGE AVENUE.
12. INDICATES FOUND LEAD, TACK AND TAG STAMPED "LS 7910" ON TOP OF WALL, PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH WITH TOP OF WALL.
13. INDICATES FOUND GIN SPINDLE WITH WASHER STAMPED "LS 7910", PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.
14. INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED BY HOLDING RECORD DATA PER R1.

LINE LEGEND

- PROPERTY LINE
- CENTER LINE
- EASEMENT
- PARCEL LINE
- EXISTING LOT LINE/ RIGHT-OF-WAY LINE

UTILITIES

ELECTRIC: SOUTHERN CALIFORNIA EDISON COMPANY
1351 E. FRANCIS
ONTARIO, CA 91761
(800) 655-4555

WATER: ELSINORE VALLEY MUNICIPAL WATER DISTRICT
31315 CHANEY STREET
LAKE ELSINORE, CA 92531-3000
(951) 674-3146

GAS: SOUTHERN CALIFORNIA GAS COMPANY
1981 LUGONIA
REDLANDS, CA 92373
(800) 427-2200

CABLE: CHARTER COMMUNICATIONS
7337 CENTRAL AVENUE
RIVERSIDE, CA 92504
(909) 359-8989

TELEPHONE: PACIFIC BELL TELEPHONE / SBC
3939 E. CORONADO
ANAHEIM, CA 92807
(800) 750-2355

SEWER: ELSINORE VALLEY MUNICIPAL WATER DISTRICT
31315 CHANEY STREET
LAKE ELSINORE, CA 92531-3000
(951) 674-3146

ZONING / LAND USE

SCENIC HIGHWAY COMMERCIAL (C-P-S) WITH A HOUSING ELEMENT MIXED USE OVERLAY

DEVELOPER

SAGE CITRUS FONTANAN, LLC
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
TELE: 949-954-5100

ENGINEER

DRC ENGINEERING, INC.
6840 INDIANA AVENUE, SUITE 215
RIVERSIDE, CA 92506
(714) 685 - 6860 X 307

CONTACT: RONALD W. SKLEPKO, P.E.

AREA SUMMARY

PARCEL 1:	0.482 ACRES
PARCEL 2:	2.346 ACRES
PARCEL 3:	0.767 ACRES
PARCEL 4:	0.977 ACRES
PARCEL 5:	4.482 ACRES
TOTAL:	9.054 ACRES
STREET VACATION:	0.100 ACRES
NET	8.95 ACRES

LOT SUMMARY

LOT "A":	0.240 ACRES
LOT "B":	0.149 ACRES
LOT "C":	0.624 ACRES
LOT "D":	0.100 ACRES (VACATION AREA)

PROJECT AREA: 9.05 ACRES
TOTAL DISTURBED AREA: 10.05 ACRES

PRELIMINARY EARTHWORK QUANTITIES	
RAW CUT	67,340 CY
RAW FILL	22,390 CY
SOIL OVEREX.	67,160 CY
EARTHWORK EXPORT	38,761 CY

N

50' 25' 0' 50' 100'
GRAPHIC SCALE: 1 INCH = 50 FT

811 Know what's below. Call before you dig.

MARK	BY	DATE	REVISIONS	APPR.	DATE

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER RONALD W. SKLEPKO No. C46216 (Exp. 12-31-2022) CIVIL STATE OF CALIFORNIA

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PLANS PREPARED UNDER THE SUPERVISION OF:
RONALD W. SKLEPKO R.C.E. 46216 DATE

BENCH MARK:
RIVERSIDE COUNTY B.M. H-10-2 (SEE DESCRIPTION HEREON)

SCALE: PER PLAN

CITY OF WILDOMAR
PARCEL MAP NO. 38333
N.W. WILDOMAR TRAIL AND CLINTON KEITH ROAD
CITY OF WILDOMAR, COUNTY OF RIVERSIDE

1 OF 1 SHEETS

FOR: CITY OF WILDOMAR
PLAN No.

U:\2021\21-094 Sage Investco Wildomar Retail\TM\21-094 Wildomar Trail (portion).dwg, Apr 23, 2022 - 11:15am

SITE LIGHTING FIXTURE SCHEDULE

TYPE	SYMBOL	MANUFACTURER SPECS	DESCRIPTION	MOUNTING	LAMP INFO	LIGHTING CUTOFF TYPES PER CITY OF WILDOMAR MC CH#8.64	MAX LUMEN ALLOWED PER CITY OF WILDOMAR MC CH#8.64	LUMEN FACTOR PER CITY OF WILDOMAR MC CH#8.64	TOTAL COUNT RESIDENTIAL	TOTAL LUMENS RESIDENTIAL	TOTAL COUNT COMMERCIAL	TOTAL LUMENS COMMERCIAL
S1A		CYCLONE LIGHTING # CY55P1B–FGC–3MHS–30W–3K–BK–TX (1)M230 ARM	POLE MOUNTED AREA LIGHTING – SINGLE TYPE 3 MEDIUM OPTICS WITH HOUSESHIELD TEXTURED BLACK	14'–0" AFG TO TOP OF FIXTURE –	30W LED 3000K 4300 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 4300 LUMENS	13	55900	9	38700
S1B		CYCLONE LIGHTING # CY55P1B–FGC–3MHS–30W–3K–BK–TX (2)M230 ARMS @180°	POLE MOUNTED AREA LIGHTING – DOUBLE TYPE 3 MEDIUM OPTICS WITH HOUSESHIELD TEXTURED BLACK	14'–0" AFG TO TOP OF FIXTURE –	30W LED 3000K/HEAD 4300 LUMENS/HEAD	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 8600 LUMENS	6	51600	27	232200
S1C		CYCLONE LIGHTING # CY55P1B–FGC–3MHS–30W–3K–BK–TX (1)M230 ARM	POLE MOUNTED AREA LIGHTING – SINGLE TYPE 3 MEDIUM OPTICS WITH HOUSESHIELD TEXTURED BLACK	12'–0" AFG TO TOP OF FIXTURE –	30W LED 3000K 4300 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 4300 LUMENS	4	17200	0	0
S2		CYCLONE LIGHTING # CBM1105C–FGF–3–15W–3K–BB1–BK–TX	PEDESTRIAN DECORATIVE 44"H BOLLARD TYPE 3 OPTICS TEXTURED BLACK	GROUND MOUNT –	16W LED 3000K 858 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 858 LUMENS	14	12012	0	0
S3		LITHONIA LIGHTING # CLX–LED–24–1500–HEF–L–MVOLT–3000K	UNDER CANOPY LED 24"L STRIP WHITE	SURFACE MOUNTED UNDER CANOPY CEILING TRASH ENCLOSURES	10.4W LED 3000K 1220 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	0 % PER 8.64.090–1(A)(3) 0 LUMENS	2	EXEMPT	6	EXEMPT
S4		LITHONIA LIGHTING # DSXSC–LED–10C–700–30K–T5W–MVOLT	UNDER CANOPY LED STRIP TYPE 5 OPTICS NATURAL ALUMINUM	SURFACE MOUNTED UNDER CANOPY CEILING CARPORTS	26W LED 3000K 2570 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	0 % PER 8.64.090–1(A)(3) 0 LUMENS	19	EXEMPT	0	EXEMPT
S5A		LITHONIA LIGHTING # WDGE1–LED–P1–30K–VF	ARCHITECTURAL WALL SCONCE TYPE VISUAL COMFORT FORWARD THROW TEXTURED BLACK	9'–0" AFG TO BOTTOM OF FIXTURE (ABOVE EXTERIOR DOORS) 11'–0" AFG TO BOTTOM OF FIXTURE (AT GARAGE ALLEYS)	10W LED 3000K 1161 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 1161 LUMENS	41	47601	8	9288
S5B		LITHONIA LIGHTING # WDGE2–LED–P3–30K–VF	ARCHITECTURAL WALL SCONCE TYPE VISUAL COMFORT FORWARD THROW TEXTURED BLACK	16'–0" AFG TO BOTTOM OF FIXTURE –	23W LED 3000K 3015 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 3015 LUMENS	0	0	9	27135
S6A		ANP LIGHTING # W520–M009LDD–W–30K–72–E8	DECORATIVE 20" DIAMETER RLM SCONCE WITH 32"X12" ARM TEXTURED BLACK	9'–0" AFG TO BOTTOM OF FIXTURE (MINIMUM TO AFG)	9W LED 3000K 850 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090–1(A)(1) 850 LUMENS	52	44200	34	28900
S6B		ANP LIGHTING # W520–M009LDD–W–30K–72–SLC	DECORATIVE 20" DIAMETER RLM PENDANT CORD OR PENDANT HUNG TEXTURED BLACK	9'–0" AFG TO BOTTOM OF FIXTURE (MINIMUM TO AFG)	9W LED 3000K 850 LUMENS	FULL CUT–OFF FULLY SHIELDED	MAX N/A	0 % PER 8.64.090–1(A)(3) 0 LUMENS	9	EXEMPT	22	EXEMPT
S7		PRIMUS LIGHTING # DSW–24–120–DSC7–PLED–S14F–27K	FESTOON LIGHTS WITH 24" SPACING STRING–HUNG	10'–0" DECORATIVE STRING HUNG (MINIMUM TO AFG)	1.5W LED 2700K 150 LUMENS	UNSHIELDED DECORATIVE	3000 LUMENS OR BELOW ALLOWED PER FIXTURE	100% PER 8.64.090–1(A)(4) 150 LUMENS	52	7800	0	0
S8		HYDREL LIGHTING # HSL13–6INCH–LED–3000K–MVOLT–L	6" WALL MOUNTED STEP LIGHTS BLACK	18" AFG TO BOTTOM OF FIXTURE (MINIMUM TO AFG)	5W LED 3000K 194 LUMENS	PARTIAL UNSHIELDED LOW–LEVEL	3000 LUMENS OR BELOW ALLOWED PER FIXTURE	100% PER 8.64.090–1(A)(4) 194 LUMENS	3	582	3	582
S9		ACCLAIM LIGHTING # LNE#1–COL#C–OPT#T–3K–(GROUND)	12" LINEAR WALL WASH BLACK	GROUND MOUNT –	12W LED 3000K 788 LUMENS	PARTIAL UNSHIELDED LOW–LEVEL	3000 LUMENS OR BELOW ALLOWED PER FIXTURE	100% PER 8.64.090–1(A)(4) 788 LUMENS	2	1576	9	7092

SITE LIGHTING PROJECT SUMMARY

COMMERCIAL PARCEL

PROJECT SITE ACREAGE
= 4.63 ACRES

PROJECT SITE OCCUPANCY / ZONING
= C–P–S, SCENIC HIGHWAY COMMERCIAL

LUMINAIRE CUT–OFF TYPES USED:
= FULLY SHIELDED FIXTURES – GENERAL USE
= UNSHIELDED FIXTURES – DECORATIVE AND AMBIANCE USE

LUMEN ALLOWANCE PER ACRE
PER CITY OF WILDOMAR MUNICIPAL CODE CHAPTER 8, TABLE 8.64.090–1
COMMERCIAL PARCEL: (OPTION 3)
= 175000 LUMENS OF COMBINED SHIELDED AND UNSHIELDED
= 11000 LUMENS OF UNSHIELDED

PROJECT SITE TOTAL LUMEN ALLOWANCE
= 810250 LUMENS OF COMBINED (175000L X 4.63 ACRES)
= 49280 LUMENS OF UNSHIELDED (50930L X 4.63 ACRES)

TOTAL LUMENS IN PROJECT OF COMBINED FIXTURES
PER FACTOR CALCULATIONS SHOWN ON FIXTURE SCHEDULE
= 343897 LUMENS (336223L, SHIELDED + 7674L, UNSHIELED)

TOTAL LUMENS IN PROJECT OF UNSHIELDED FIXTURES
PER FACTOR CALCLUATIONS SHOWN ON FIXTURE SCHEDULE
= 7674 LUMENS

RESIDENTIAL PARCEL

PROJECT SITE ACREAGE
= 4.48 ACRES

PROJECT SITE OCCUPANCY / ZONING
= R–2, RESIDENTIAL

LUMINAIRE CUT–OFF TYPES USED:
= FULLY SHIELDED FIXTURES – GENERAL USE
= UNSHIELDED FIXTURES – DECORATIVE AND AMBIANCE USE

LUMEN ALLOWANCE PER ACRE
PER CITY OF WILDOMAR MUNICIPAL CODE CHAPTER 8, TABLE 8.64.090–1
RESIDENTIAL PARCEL:
= 55000 LUMENS OF COMBINED SHIELDED AND UNSHIELDED
= 11000 LUMENS OF UNSHIELDED

PROJECT SITE TOTAL LUMEN ALLOWANCE
= 246400 LUMENS OF COMBINED (55000L X 4.48 ACRES)
= 49280 LUMENS OF UNSHIELDED (11000L X 4.48 ACRES)

TOTAL LUMENS IN PROJECT OF COMBINED FIXTURES
PER FACTOR CALCULATIONS SHOWN ON FIXTURE SCHEDULE
= 238471 LUMENS (228513L + 9958L, UNSHIELDED)

TOTAL LUMENS IN PROJECT OF UNSHIELDED FIXTURES
PER FACTOR CALCLUATIONS SHOWN ON FIXTURE SCHEDULE
= 9958 LUMENS

NOTE:
ALL EXTERIOR LIGHTING CONTROLS SHALL BE COMPLIANT PER
CITY OF WILDOMAR MUNICIPAL CODE: TITLE 8 / CHAPTER 8.64

PHOTOMETRICS STATISTICS - RESIDENTIAL

AREA	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
RESIDENTIAL – OVERHEAD SHED AT PATIO MAJOR A	⚹	2.9 fc	3.6 fc	2.3 fc	1.6:1	1.3:1
RESIDENTIAL – PARKING AMENITIES	⚹	1.1 fc	1.6 fc	0.6 fc	2.7:1	1.8:1
RESIDENTIAL – PARKING CARPORT – TYP	⚹	1.2 fc	1.5 fc	0.9 fc	1.7:1	1.3:1
RESIDENTIAL – PARKING CENTER	⚹	1.1 fc	2.2 fc	0.5 fc	4.4:1	2.2:1
RESIDENTIAL – PARKING NORTH	⚹	1.0 fc	2.4 fc	0.4 fc	6.0:1	2.5:1
RESIDENTIAL – PARKING SOUTHWEST FRONT	⚹	1.3 fc	1.7 fc	0.9 fc	1.9:1	1.4:1
RESIDENTIAL – PARKING WEST	⚹	1.0 fc	1.4 fc	0.5 fc	2.8:1	2.0:1
RESIDENTIAL – PEDESTRIAN TYPICAL	+	1.5 fc	6.0 fc	0.2 fc	30.0:1	7.5:1
RESIDENTIAL – POOL DECK BBQ	⚹	14.9 fc	19.7 fc	4.9 fc	4.0:1	3.0:1
RESIDENTIAL – POOL DECK AREA	⚹	2.1 fc	4.7 fc	1.0 fc	4.7:1	2.1:1
RESIDENTIAL – TRASH NORTH	⚹	1.7 fc	3.1 fc	0.4 fc	7.8:1	4.3:1
RESIDENTIAL – TRASH SOUTH	⚹	2.9 fc	5.2 fc	1.4 fc	3.7:1	2.1:1

PHOTOMETRICS STATISTICS - COMPOSITE

SITE BOUNDARY – EAST	+	0.6 fc	1.3 fc	0.1 fc	13.0:1	6.0:1
SITE BOUNDARY – NORTH	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A
SITE BOUNDARY – SOUTH	+	0.4 fc	1.1 fc	0.0 fc	N/A	N/A
SITE BOUNDARY – WEST	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A

PHOTOMETRICS STATISTICS - COMMERICIAL

AREA	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
COMMERCIAL – DRIVE THRU LANE PAD 1	⚹	1.3 fc	4.6 fc	0.4 fc	11.5:1	3.3:1
COMMERCIAL – DRIVE THRU LANE PAD 2	⚹	1.7 fc	5.9 fc	0.3 fc	19.7:1	5.7:1
COMMERCIAL – DRIVE THRU WINDOW PAD 1	+	13.3 fc	15.9 fc	11.9 fc	1.3:1	1.1:1
COMMERCIAL – DRIVE THRU WINDOW PAD 2	+	13.4 fc	15.6 fc	12.1 fc	1.3:1	1.1:1
COMMERCIAL – OVERHEAD WAITING SHEDS	⚹	2.2 fc	3.1 fc	1.3 fc	2.4:1	1.7:1
COMMERCIAL – PARKING CENTER	⚹	1.4 fc	3.3 fc	0.3 fc	11.0:1	4.7:1
COMMERCIAL – PARKING NORTHEAST	⚹	1.5 fc	3.7 fc	0.4 fc	9.3:1	3.8:1
COMMERCIAL – PARKING SOUTHEAST	⚹	1.3 fc	2.6 fc	0.3 fc	8.7:1	4.3:1
COMMERCIAL – PATIO PAD 1	⚹	5.6 fc	7.9 fc	3.7 fc	2.1:1	1.5:1
COMMERCIAL – PATIO PAD 2	⚹	2.3 fc	6.9 fc	1.0 fc	6.9:1	2.3:1
COMMERCIAL – PEDESTRIAN TYPICAL	+	1.3 fc	5.5 fc	0.3 fc	18.3:1	4.3:1
COMMERCIAL – TRASH MAJOR A	⚹	3.5 fc	5.9 fc	1.6 fc	3.7:1	2.2:1
COMMERCIAL – TRASH PAD 1	⚹	3.7 fc	5.5 fc	2.2 fc	2.5:1	1.7:1
COMMERCIAL – TRASH PAD 2	⚹	3.3 fc	5.1 fc	1.5 fc	3.4:1	2.2:1

SITE LIGHTING SHEET INDEX

E–0.0 SITE LIGHTING COVER SHEET
E–1.0 SITE LIGHTING LAYOUT – PARTIAL AREA NORTH
E–1.1 SITE LIGHTING LAYOUT – PARTIAL AREA SOUTH
E–2.0 SITE LIGHTING PHOTOMETRICS – PARTIAL AREA NORTH
E–2.1 SITE LIGHTING PHOTOMETRICS – PARTIAL AREA SOUTH
E–3.0 SITE LIGHTING FIXTURE CUTSHEETS
E–3.1 SITE LIGHTING FIXTURE CUTSHEETS
E–3.2 SITE LIGHTING FIXTURE CUTSHEETS

Last saved by ramon.benjamin Layout1 P:\2021\2021–03779\Cad\1_ENTITLEMENT\P21034_E00.dwg 04/19/2022 15:48
Last plotted by ramon.benjamin Layout1 P:\2021\2021–03779\Cad\1_ENTITLEMENT\P21034_E00.dwg 04/19/2022 15:53

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

E0.0

REGISTERED PROFESSIONAL ENGINEER ROY L. LOPEZ No. 1344 Exp. 06/30/22 ELECTRICAL STATE OF CALIFORNIA

SALASO'BRIEN | expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
DP | JVP | RB
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com

SITE LIGHTING COVER SHEET

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

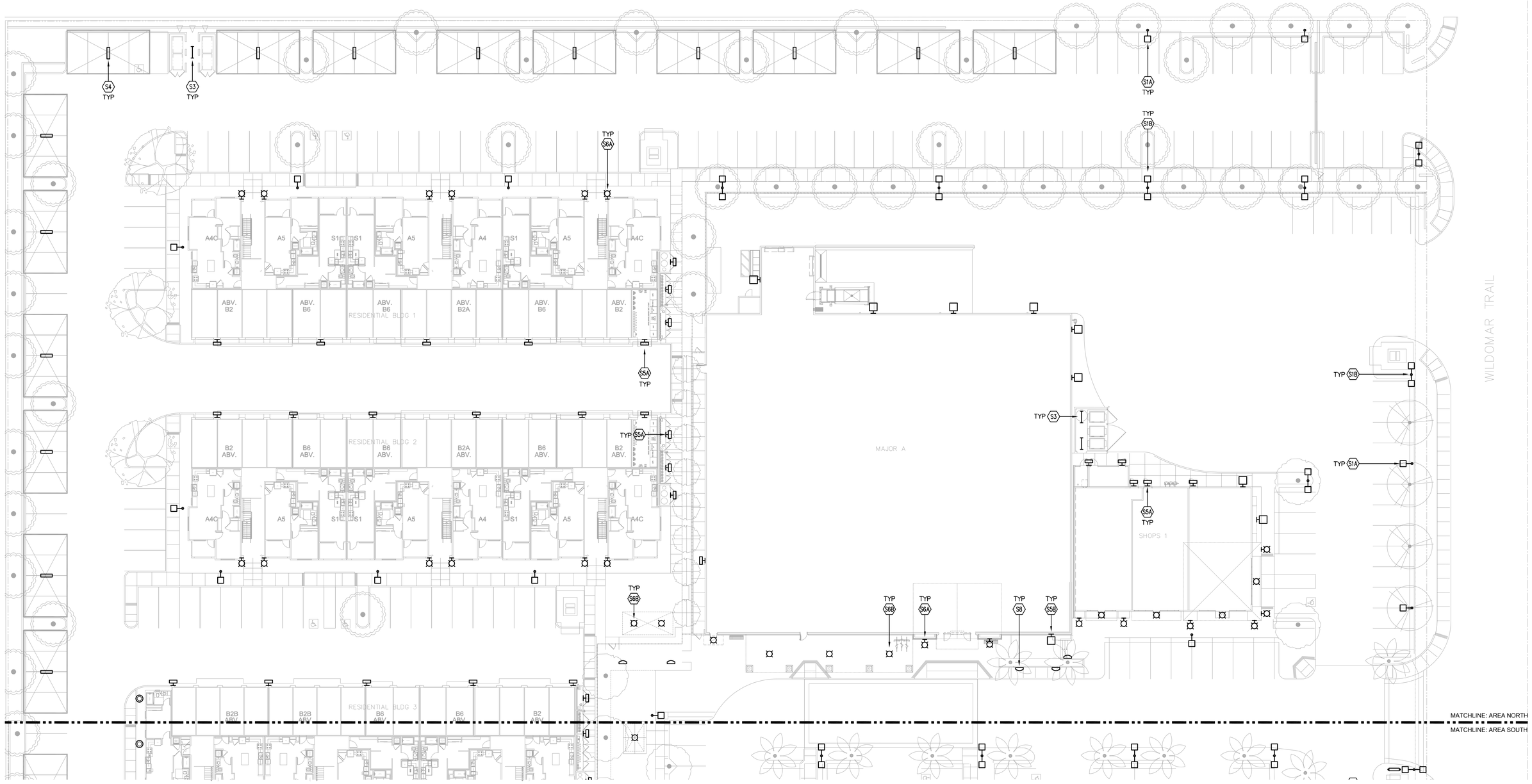
INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021



Last saved by ramon.benjamin E10 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10_E11.dwg 04/19/2022 15:46
Last plotted by ramon.benjamin E10 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10_E11.dwg 04/19/2022 15:51

0 10' 20' 40' 60'
1"=20'-0"

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

E1.0

SITE LIGHTING LAYOUT
PARTIAL AREA - NORTH

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

SALASOBRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553

#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com

DP | JVP | RB

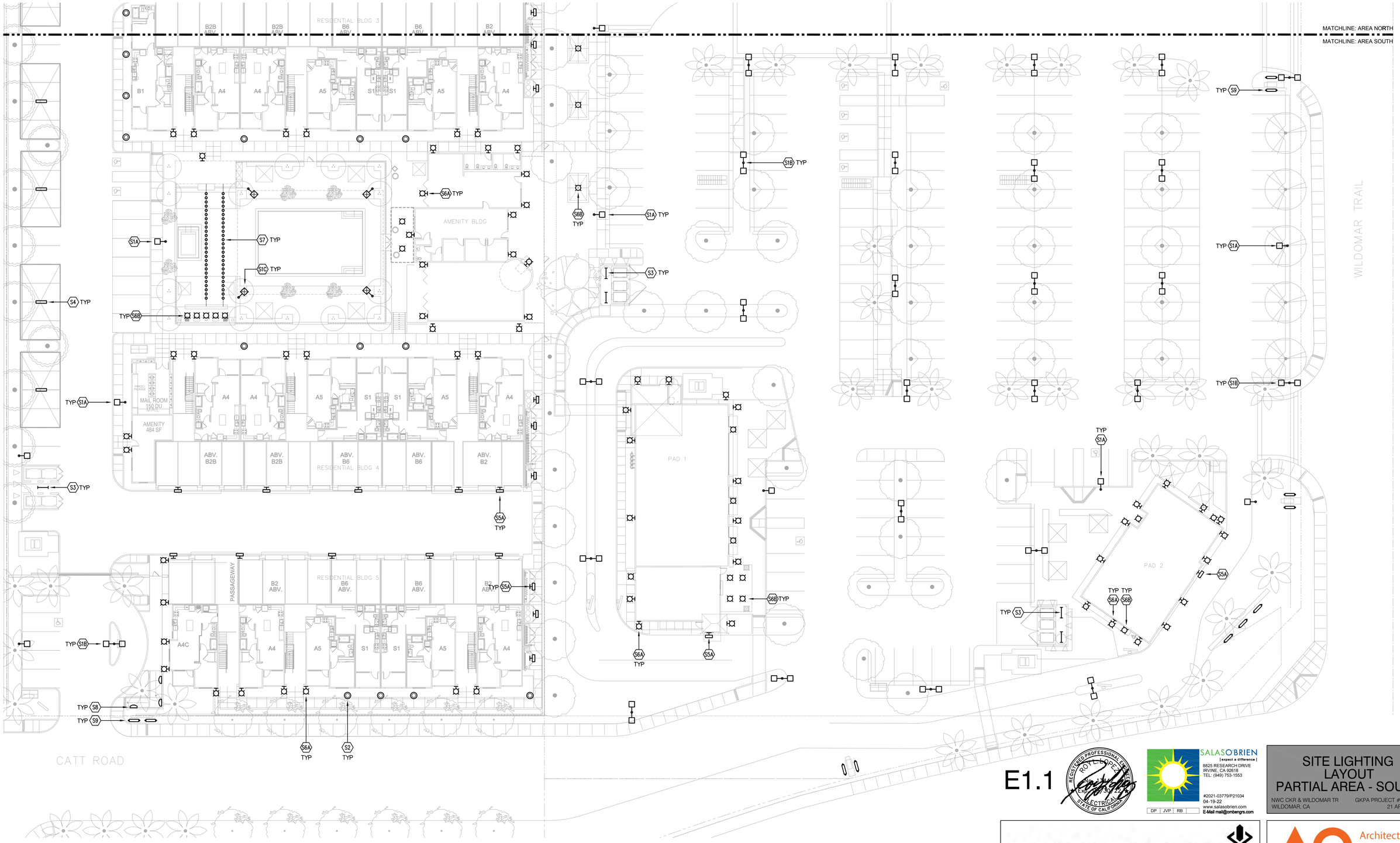
INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9660

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021



E1.1

REGISTERED PROFESSIONAL ENGINEER
ROY L. LOPEZ
No. 17404
Exp. 12/30/22
ELECTRICAL
STATE OF CALIFORNIA

SALASO'BRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING LAYOUT
PARTIAL AREA - SOUTH

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

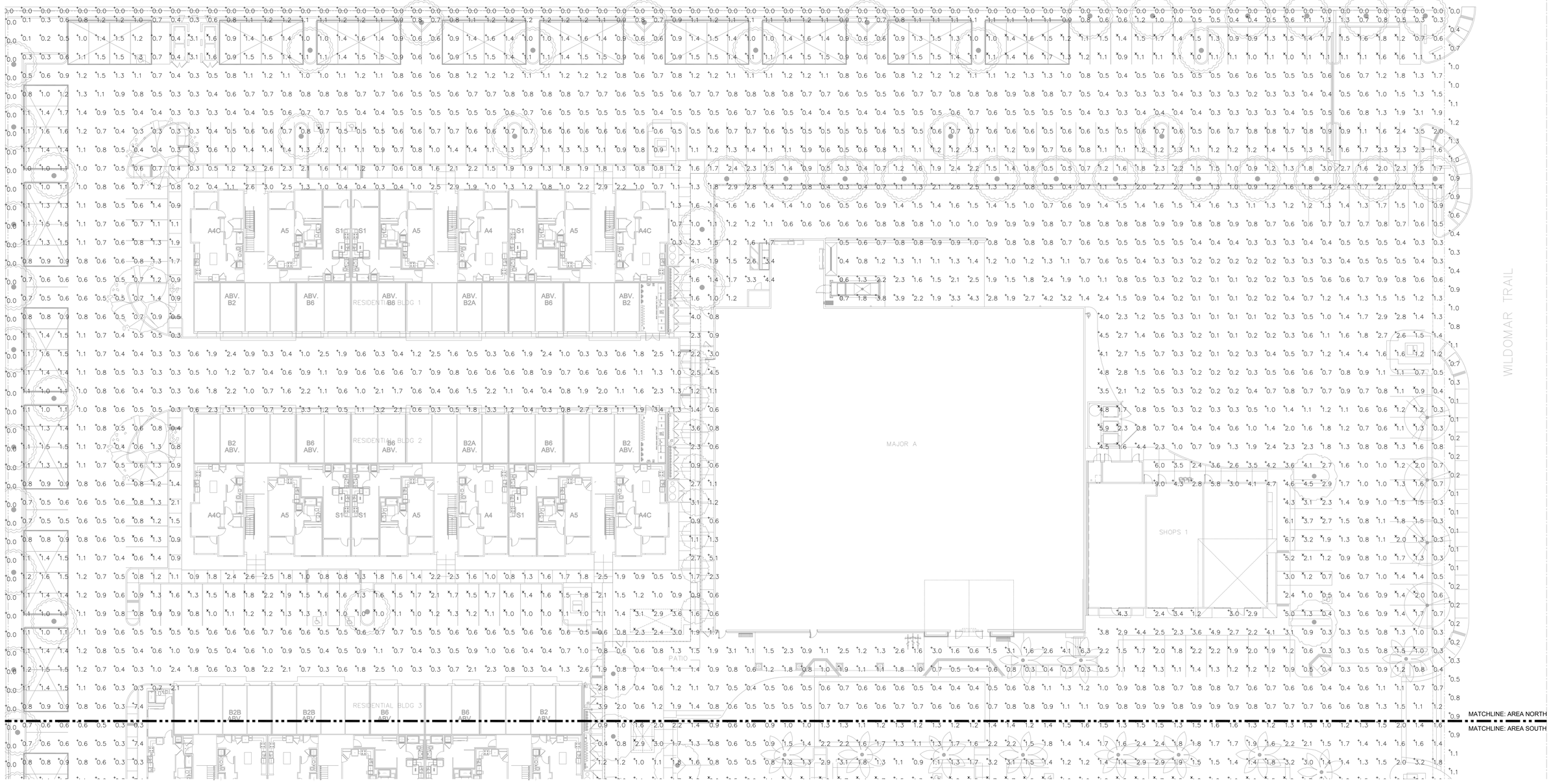
SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720
©GK PIERCE ARCHITECTS, INC. 2021

1"=20'-0" 0 10' 20' 40' 60'
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin E10 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10,E11.dwg 04/19/2022 15:46
Last plotted by ramon.benjamin E11 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10,E11.dwg 04/19/2022 15:51



E2.0

SALASO'BRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING PHOTOMETRICS PARTIAL AREA - NORTH
NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

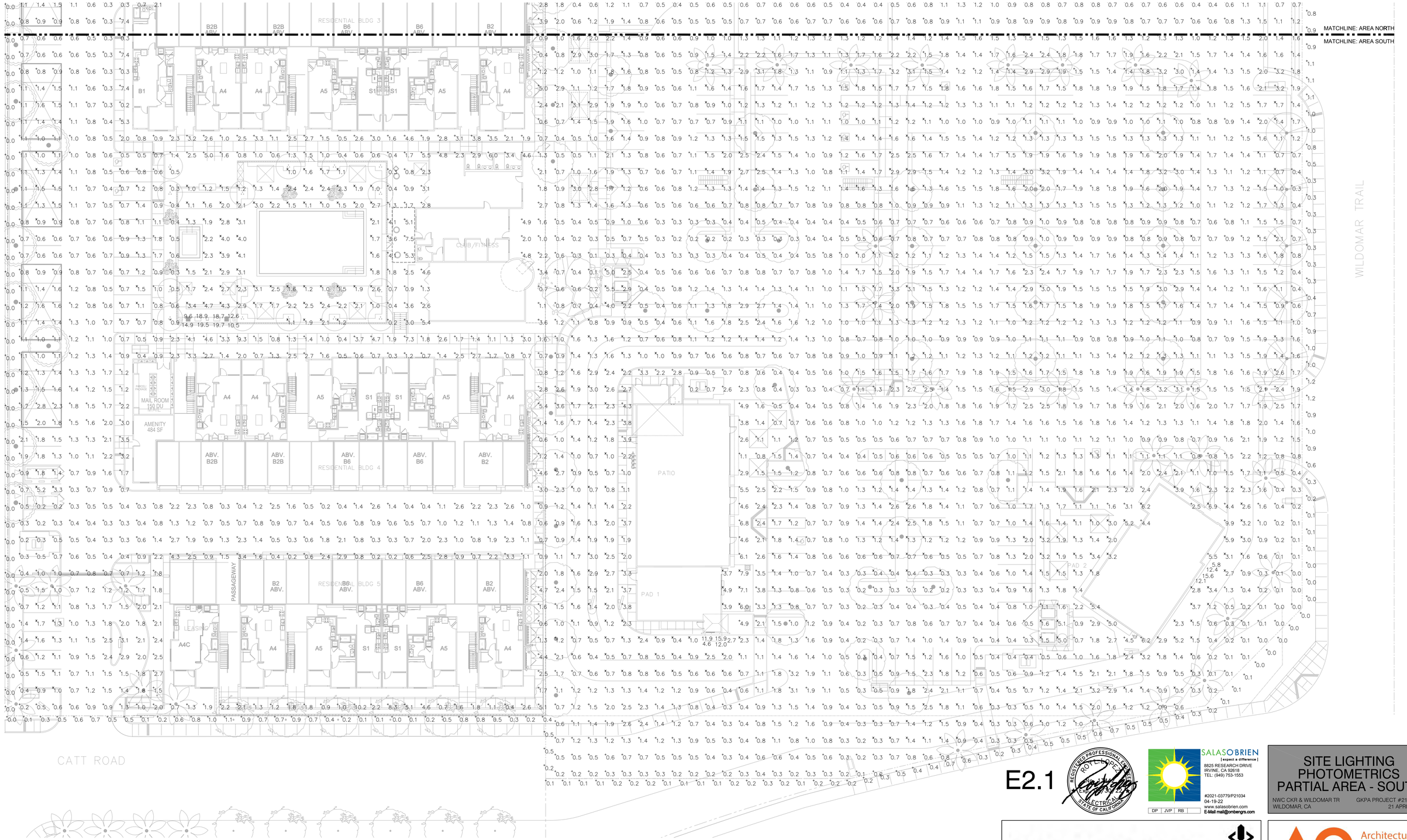
SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720
©GK PIERCE ARCHITECTS, INC. 2021

1"=20'-0" 0 10' 20' 40' 60'
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin E21 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20.E21.dwg 04/19/2022 15:43
Last plotted by ramon.benjamin E20 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20.E21.dwg 04/19/2022 15:50



E2.1

SALASOBRIEN
[expect a difference]
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553

#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com

DP | JVP | RB

SITE LIGHTING PHOTOMETRICS PARTIAL AREA - SOUTH

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

1"=20'-0" 0 10' 20' 40' 60'

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin E21 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20_E21.dwg 04/19/2022 15:43
Last plotted by ramon.benjamin E21 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20_E21.dwg 04/19/2022 15:51

TYPE S1A S1B S1C

cyclone

Domia CY55P1B Approval – Specification

Project: Order:
Qty: Luminaire: Type:

Tenon Details: Round shape, made of one-piece cast A356 aluminum. An interior border makes it possible to fix the frame module. The certification, maintenance and coding labels of the luminaire are located inside the housing module.

Frame Module: Cast A356 aluminum ring mechanically fixed to the housing, with hinge and quarter-turn latch that accepts the lens module and provides access to the driver module.

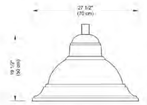
Optical Module: The cast A384 aluminum heat sink is optimized to minimize the temperature of the LEDs, increasing their longevity and efficiency. The lens module is assembled mechanically for easy replacement. A flat lens in ▼ is fixed on the cast aluminum frame. The lens is fully IP67 thanks to the silicone gasket. The high efficiency ▼ LED circuit is mechanically assembled on the heat sink. The lifetime of the LEDs is 100,000 hours. It is based on the LM-80 test and extrapolated with TM-21. This data is calculated when 50% of the LEDs produce 70% of their initial luminous flux (L70). The minimum color rendering index (CRI) is 70. The lenses are made of acrylic and designed to illuminate only where needed while achieving excellent uniformity with maximum spacing. The type according to IES ▼.

Driver Module: The self-adjusting Class 1 (50W and over) or Class 2 (20 to 40W) driver is removable without tools.

Primary Voltage of ▼ **Volts.** 50 / 60Hz. THD max 20%. The high power factor is of 90%. The operating temperature is from -40° F (-40° C) to 130° F (50° C). Complies with ROHS. Assembled with quick-disconnect connectors. Complete with 10kA tripolar overvoltage protection for live, neutral and ground lines according to EEE / ANSI C62.41 2002 C. The driver offers 0-10 Volts output.

Wiring / Hardware: Type TEW 14-7, 12" (30cm) minimum exceeding luminaire. All electrical connections between the modules are provided with quick-disconnect connectors for easy maintenance. All outside accessible hardware is accessible is stainless steel. Silicone gaskets are used for sealing the luminaire.

Color: ▼ Textured or Smooth (SM) ▼ finish. The application of durable polyester powder coating meets AAMA 2604 requirements (5 years at all weather conditions). The finish meets ASTM-D7, B117, D1654 and D2247 standards for salt spray and moisture. Cyclone recommends a textured finish for this product.



EPA: 1.61 ft² **Weight:** 52 lbs / 24 kg

Suggested Mountings
See Mounting Specification Sheets for details



Stamp/Approval:
Name: Date:

Name: Page 1 of 2
Date:

Cyclone Lighting: 2175 Des Entreprises Blvd. Terrebonne (QC) Canada J6Y 1W9
Phone: 450.434.5000 - info@cyclonelighting.com

www.cyclonelighting.com
© Cyclone Lighting 2020-12

cyclone

Domia CY55P1B Approval – Specification

Project: Order:
Qty: Luminaire: Type:

Ordering Template

Model	Lens	Dist.	Performance Package	CCT	Volt	Adaptor	Ph Cell	Options	Color	Texture	Op. Fin.
CY55P1B	FGC	2	10W (3300LM)	3K	120-277	NONE	NONE	NONE	BK	TX	MG
	FGF	2HS	30W (4200LM)	4K	347-480		PC	ADV	DG	SM	
		3	40W (5600LM)		120			FDP506	MA		
		3HS	50W (6600LM)		208			FDP508	SI		
		3M	50W (7900LM)		240			SD	BZ		
		3MHS	60W (10550LM)		277				BG		
		4	100W (13900LM)		347				GM		
		4HS	130W (15500LM)		480				PG		
		5							WH		

*Not available for 4MHS

Ordering Code

References

Lens
FGC Flat Glass Clear
FGF Flat Glass Frosted

Distribution
2 Type 2
3 Type 3
3HS Type 3 with House Shield
3M Type 3 Medium
3MHS Type 3 Medium with House Shield
4 Type 4
4HS Type 4 with House Shield
5 Type 5
See Photometric data document for photometric values.

CCT
3K 3000K
4K 4000K

Watt
See Photometric Data document for lumen output per distribution and lens.

Volts
120-277 MVOLT 120-277VAC
347-480 HVOLT 347-480VAC

Adaptor
None Fits into Ø 2" I.D. X 4" long tenon

Photocell
PC Button-type photocell

Options
ADV Side Mount Filter
FDP506 Program 50% for 6 hours (9PM to 9AM)
FDP508 Program 50% for 8 hours (9PM to 9AM)
SD* Field adjustable 10% increment step-dimming switch
* Contact factory for wireless controls and more information regarding SD series.

Color
BK Black RAL9005
DG Dark green RAL6012
MA Marine blue RAL5013
SI Metallic silver RAL9006 (smooth only)
BZ Dark bronze RAL8019
BG Burgundy RAL3005
GM Moss green RAL6005
PG Pale grey RAL7040
WH White RAL9003

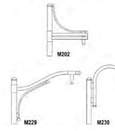
Texture
TX Textured
SM Smooth

Op. Fin. (Optional finish)
MG Marine grade pre-finish



EPA: 1.61 ft² **Weight:** 52 lbs (24 kg)

Suggested Mountings
See Mounting Specification Sheets for details



Stamp/Approval:
Name: Date:

Name: Page 2 of 2
Date:

Cyclone Lighting: 2175 Des Entreprises Blvd. Terrebonne (QC) Canada J6Y 1W9
Phone: 450.434.5000 - info@cyclonelighting.com

www.cyclonelighting.com
© Cyclone Lighting 2020-12

TYPE S2

Bollard
CBM1105C

SOURCE: LED 4000K = 150K, 70 CRI minimum†
WATERPROOF RATING: IP67 optical system
Dark Sky friendly optical system when using flat lens

LED code definition: 3 - 15W - 4K
Color temperature
LED Wattage
Optical distribution



Flat Glass Frost (FGF)

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM*	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY†
3-10W-4K	858	68	15	19	460	B0-U0-G0	35W
5-14W-4K	1001	53	15	19	460	B1-U0-G0	35W
2-20W-4K	1431	45	35	32	820	B1-U0-G0	50W
5-20W-4K	1597	50	35	39	820	B1-U0-G0	50W
3-30W-4K	1718	46	30	37	550	B1-U0-G0	70W
5-30W-4K	1995	53	30	37	850	B1-U0-G0	70W
3-35W-4K	2064	48	35	42	1050	B1-U0-G0	70W
7-35W-4M	2236	53	35	42	1050	B1-U0-G0	70W

Cylinder Lens - CAP (POND finish)

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM*	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY†
3-15W-4K	1328	88	15	19	460	B2-U0-G1	35W
5-14W-4K	1579	82	15	19	460	B2-U0-G1	35W
3-25W-4K	1916	118	25	32	930	B2-U0-G1	50W
5-25W-4K	1965	80	25	32	930	B2-U0-G1	70W
3-30W-4K	1064	119	30	37	950	B1-U2-G1	70W
5-30W-4K	1066	81	30	37	950	B1-U2-G1	70W
3-35W-4K	1340	80	35	43	1050	B1-U2-G1	70W
5-35W-4K	1303	77	35	43	1050	B1-U2-G1	70W

†ES-19-21 Calculated **L70** is over **363 000 hours.**
IES-TM-21 Reported more than **54 000 hours.**
*System wattage includes the LED and the Driver.
†Equivalency should always be verified by photometric layout.
‡4000K used for testing. 3000K photometrics is available on website

Note: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Cyclone Lighting. Cyclone Lighting reserves the right to substitute materials or change the manufacturing process of its products without prior notification. See the latest results and updates on our website at www.cyclonelighting.com

cyclone
REV. 5: 09/10

Bollards
CBM1701C/CBM1105C/CBM1154C/CBM1210C/CBM2112C

Ordering Template

MODEL	LENS	DIST.	WATT	CT	VOLT	BASE	OPTIONS	COLOR	TEXTURE	OP.FIN.
CBM1701C	FGF	3	15W	3K	120	NOVE[1]	NONE	BK	TX	MG
CBM1105C	CAC	5	25W	4K	208	BB1[1]	PC[1,2]	DG	SM	
CBM1154C	CAP[1]		30W		240	BB2[4]	GFIC1	MA		
CBM1210C			35W		277	BB3[1,3]	GFIC2	SI		
CBM2112C					347			BZ		
					480			BG		
								GM		
								PG		
								WH		

[1]FOR ALL BOLLARD EXCEPT CBM1701C
[2]AVAILABLE ONLY WITH CBM1701C
[3]OPTION PC AND GFIC NOT AVAILABLE WITH BB3
[4]OPTION NOT AVAILABLE FOR CBM1701C
[5]OPTION NOT AVAILABLE WITH 480V

ORDERING CODE

References

LENS
FGF FLAT GLASS FROST
CAC CLEAR CYCLINDRICAL ACRYLIC GLOBE
CAP POND (DIFFUSED) CYCLINDRICAL ACRYLIC GLOBE

DISTRIBUTION
See PHOTOMETRIC PAGE FOR LUMEN OUTPUT

WATT
(SEE PHOTOMETRIC PAGE FOR LUMEN OUTPUT)

CCT
3K 3000K
4K 4000K

BASE
NONE NONE
BB1 ROUND BASE
BB2 ROUND BASE WITH BASE COVER
BB3 RIBBED BASE

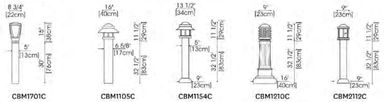
OPTIONS
NONE NONE
PC BUTTON-TYPE PHOTOCELL
GFIC1 DUPLEX RECEPTACLE, GROUND FAULT CURRENT INTERRUPTER, 125 VAC (15A), COMPLETE WITH A LOCKABLE "WeatherProof" WEATHERPROOF COVER
GFIC2 DUPLEX RECEPTACLE, GROUND FAULT CURRENT INTERRUPTER, 125 VAC (15A), COMPLETE WITH A LOCKABLE "WeatherProof" WEATHERPROOF COVER

COLOR
BK BLACK RAL9005
DG DARK GREEN RAL6012
MA MARINE BLUE RAL5013
SI METALLIC SILVER RAL9006 (SMOOTH ONLY)
BZ DARK BRONZE RAL8019
BG BURGUNDY RAL3005
GM MOSS GREEN RAL6005
PG PALE GREY RAL7040
WH WHITE RAL9003

TEXTURE
TX TEXTURED
SM SMOOTH

OP.FIN. (OPTIONAL FINISH)
MG MARINE GRADE PRE-FINISH

Luminaire



TYPE S3

LITHONIA LIGHTING

Catalog Number
Notes
Type

LED Linear

CLX

24", 36", 48" and 96" Lengths



FEATURES & SPECIFICATIONS

INTENDED USE — The CLX is a linear lighting solution that is available in multiple lengths, lumen packages and distributions. Designed for versatility, the CLX can address virtually any indoor lighting need. The CLX is also offered in standard and high efficacy configurations and capable of being continuous row mounted or installed as a stand-alone fixture. Ideal for upright and downlight in commercial, retail, manufacturing, warehouse, and display applications. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate. Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.**

CONSTRUCTION — Channel and cover are formed from code-gauge cold-rolled steel. Housing and lens ends are injection molded plastic to provide a more architectural look and feel. The end caps come standard with a 7/8" knock out for continuous row mounting but can be ordered without.

Finish: Paint options include high-gloss, Baked white polyester (WH), opalescent (GACF), matte black (MB) and smoke gray (MGY). Pre-cogs input phosphate per insulment ensures superior paint adhesion and rust resistance.

OPTICS — Offered with acrylic lens and lens trim configurations. Provides a choice of optical distributions including, wide, narrow, and wide.

ELECTRICAL — 3000mm high-output LEDs integrated on a two layer circuit board, ensuring cool-running operation. Optional internal pluggable wiring harness for reduced labor cost in row mounting applications. See P.R.R. ordering information on page 3-4. Electronic LED drivers is multi-volt input and 0-10V dimming standard (see Operational Data on page 4 for actual wattage consumption). The fixture is IP20 rated and has been tested to a minimum low range of 2.5kV at 0.5Hz combination wave for indoor locations. Regional locations requiring higher level of protection additional surge protection must be provided. L70 is 100,000 hours at 25˚C.

ULEs provide nominal 80 CRI at 90 CRI at 3000-K, 3500-K, 4000-K or 5000-K.

Lumen output up to 22,000 lumens per foot.

INSTALLATION — Fixture may be ceiling or wall mounted (with or without THICK bumper or angle mounted with CLAMKLIBT), pendant or stem mounted with appropriate mounting systems.

WARNING — Removing the lens and scoring the fixture during installation exposes the LEDs, putting them at risk for damage.

If you plan to surface-mount this fixture, we recommend using the THICK. This eliminates the need to score the fixture.

If you plan to continuous row mount, we recommend using the FLX scoring fixture option. Utu eliminates the need to open the fixture.

Damage to the LEDs caused during installation will not be covered under the warranty.

LISTINGS — CSA certified to US and Canadian safety standards. For use in damp locations between -4°F (-20°C) and 104°F (40°C). Optional High Ambient (hA) ranging to 122°F (50°C) available on certain lumen packages (see ambient temperature chart for additional information).

Designlights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy American(a) government procurement requirements under 14D, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

Stock configurations are offered for shorter lead times:

Stock Part Number	BPC	DLC QPL Product ID	DLC Premium
CLX L40 3000LM SEF FDL MVOLT GZ10 40K 80CRI WH	0091723125616	PLHA3294	Yes
CLX L40 3000LM SEF FDL MVOLT GZ10 35K 80CRI WH	0091723126286	PHMV3NL	Yes
CLX L40 5000LM SEF FDL MVOLT GZ10 40K 80CRI WH	0091723125999	P7TBG20	Yes
CLX L40 5000LM SEF FDL MVOLT GZ10 35K 80CRI WH	0091723126998	PBAHZ4K	Yes
CLX L96 4000LM SEF FDL MVOLT GZ10 40K 80CRI WH	0091723126461	HYTRB8N	Yes
CLX L96 4000LM SEF FDL MVOLT GZ10 35K 80CRI WH	0091723125915	P4NZ3TE	Yes
CLX L96 10000LM SEF FDL MVOLT GZ10 40K 80CRI WH	0091723125922	P1RX7DF	Yes
CLX L96 10000LM SEF FDL MVOLT GZ10 35K 80CRI WH	0091723125830	P9TFL3X	Yes
CLX L48 5000LM SEF RDL MVOLT GZ10 40K 80CRI WH	0091723126160	P4WDZ94	Yes
CLX L48 3000LM SEF RDL MVOLT GZ10 40K 80CRI WH	0091723125892	PVWV2ML	Yes
CLX L48 5000LM SEF RDL MVOLT GZ10 40K 80CRI WH	0091723125854	P7TBG2L	Yes
CLX L48 5000LM SEF RDL MVOLT GZ10 35K 80CRI WH	0091723126046	P8AGZ3K	Yes
CLX L48 4000LM SEF RDL MVOLT GZ10 40K 80CRI WH	0091723125670	PFTSB8V	Yes
CLX L96 4000LM SEF RDL MVOLT GZ10 40K 80CRI WH	0091723125625	P2RTEA3	Yes
CLX L96 10000LM SEF RDL MVOLT GZ10 40K 80CRI WH	0091723125953	PYBDCEW	Yes
CLX L96 10000LM SEF RDL MVOLT GZ10 35K 80CRI WH	0091723125687	PFFTL3X	Yes

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks marked by a distinctive icon

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

CLX LED Linear

ORDERING INFORMATION — Lead times will vary depending on options selected. Consult with your sales representative. **Example:** CLX L48 5000LM SEF WDL MVOLT GZ10 40K 80CRI WH

Series	Length	Nominal lumens	Performance package	Louvers	Lens
CLX LED linear	L24 24"[1,2]	1500LM 1,500 lumens	SEF Standard efficiency†	(Blank) Less louver	L Lens Less lens
		2000LM 2,000 lumens	HEF Premium efficiency	SBLW Straight blade louvers, white†	FDL Flat diffuse †,*
		2500LM 2,500 lumens		SBLMB Straight blade louvers, matte black†	RDL Round diffuse †,*
		3500LM 3,500 lumens		SBLGV Straight blade louvers, galvanized*	WDL Wide diffuse †,*
		4000LM 4,000 lumens		SBLSMGY Straight blade louvers, smoke gray*	
		5000LM 5,000 lumens[3,4]			
	L36 36"[1]	2250LM 2,250 lumens			
		3000LM 3,000 lumens			
		3750LM 3,750 lumens			
		5250LM 5,250 lumens			
		6750LM 6,750 lumens			
		7500LM 7,500 lumens[3,4]			
	L48 48"	3000LM 3,000 lumens			
		4000LM 4,000 lumens			
		5000LM 5,000 lumens			
		6000LM 6,000 lumens			
		7500LM 7,500 lumens[3,4]			
		9000LM 9,000 lumens[3,4]			
		10000LM 10,000 lumens[3,4]			
	L96 96"	6000LM 6,000 lumens			
		8000LM 8,000 lumens			
		10000LM 10,000 lumens			
		14000LM 14,000 lumens[3,4]			
		16000LM 16,000 lumens[3,4]			
		20000LM 20,000 Lumens[3,4]			

Distribution	Voltage	Driver[5]	Color temperature	Colorizing rendering index
(Blank) General	MVOLT 120-277V[6] 277 277V	GZ10 Generic 0-10V, dims to 10%[7,8]	30K 3000 K	80CRI 80 CRI
ND Narrow[9,10]	120 120V	GZ1 eldoLED 0-10V, dims to 1%[7]	35K 3500 K	90CRI 90 CRI
WD Wide[9,10]	347 347V[11]		40K 4000 K	
AD2 Axle, 24" off center[9,10]	480 480V[11]		50K 5000 K	
	208 208V[11]			
	240 240V[11]			

Options	Finish
PS10SD Emergency battery pack, 10W, CA Title 20 Non-compliant[12,13,14]	WH White
EVWHCLP Emergency battery pack, 10W Linear Constant Power, Certified in CA Title 20 Ready[12,13,14]	GALVW Galvanized with white lens end caps
BGTD Generator transfer device, not available with PSSQSD[12,14,15]	GALVB Galvanized with black lens end caps
DCS 5", 90 CRI Selectable Dim Pass cable[16] (fixture will bear dry location label)	MB Matte black
HA High ambient, for use in ambient temperatures up to 50°C[17]	SMGYW Smoke gray with white lens end caps
EPAIR3 Decorative endplate, no knock out[18]	SMGYB Smoke gray with black lens end caps
DLTCTR Wiring leads pulled through back center of fixture[19]	
DLTEND Wiring leads pulled through end of fixture[19]	
GasketSeals	
CSTW Straight blade plug, 120V[20,21]	
CSTH Straight blade plug, 277V[20,21]	
CSTWH Straight blade plug, 277V[20,21]	
CSTW Straight blade plug, 347V[20,21]	
CSTWH NEMA twist-lock plug, 480V[20,21]	
CSWH NEMA twist-lock plug, 480V[20,21]	
CSWHSE 600V SJOOW white cord, no plug (no voltage required)	
CSAWGB2SWH20 6' white cord, 14/5, no plug, (no labels line voltage dimming wires (no wall cap required)[22]	

Controls	Shipped separately
PIR Motion/ambient sensor for 15-30' mounting height; and typical applications requiring daylight harvesting and 180-360 coverage.[23,24]	BBW180 White
PIRH Motion/ambient sensor for 15-30' mounting height.[24]	BBA180 Natural aluminum
PIRHCLW Motion/ambient sensor for 8-15' mounting heights and for typical applications requiring daylight harvesting and Title 24 compliance.[24]	BBB180 Black
PIRHCSTW Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLC Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIM Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCRDLCDIMDIRDCR Motion/ambient sensor for 15-30' mounting height.[24,25]	
PIRHCSTWDCRDLCDIMDIRDCRDL

TYPE S5A



WDGE1 LED
Architectural Wall Sconce

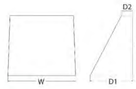
DLC Premium · DLC · MA · Buy American

20

Catalog Number	
Notes	
Type	

Specifications

Depth (D1): 5.5"
Depth (D2): 1.5"
Height: 8"
Width: 9"
Weight: (without options) 9 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

WDGE LED Family Overview

Luminaire	Standard/40K, 0°C	Cold/40K, -20°C	Sensor	Lumens (4000K)					
				P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	—	—	1,200	2,000	—	—	—	—
WDGE2 LED	10W	10W	Standalone / xLight	1,200	2,000	3,000	4,500	6,000	—
WDGE3 LED	15W	15W	Standalone / xLight	2,500	4,000	6,000	8,500	12,000	—
WDGE4 LED	—	—	Standalone / xLight	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE1 LED	P1 P2	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K* 5000K	80CRI 90CRI	VF Visual comfort forward throw VW Visual comfort wide	MVOLT 347*	Shipped included SRM Surface mounting bracket ICW Indirect Ceiling Ceiling Washer bracket (ship/factory installed only) Shipped separately AWS Wildcard architectural wall spacer PBBW Surface-mounted back box (req. left, right conduit entry). Use when there is no junction box available.

Options	Finish
E4WH* Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min.) PE* Photocell, Button Type DS Dual-switching (requires with 2 drivers and 2 light engines, see page 3 for details) DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately) BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points.	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

Accessories

Ordered and shipped separately.

WSGE4W1.DBXD WSG2 Wildcard Architectural Wall Spacer (specify finish)
WSG2PBBW DBXD U WSG2 surface-mounted backbox (specify finish)

NOTES
1 50K not available in WDC90.
2 347V not available with E4WH, E10WH, E20WC or sensors/controls.
3 E4WH not available with PE or DS.
4 PE not available with DS.
5 Not qualified for DLC. Not available with E4WH.

© 2019-2021 Acuity Brands Lighting, Inc. All rights reserved.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Color Temp	2W (150MA, 4000K)				3W (150MA, 4000K)				5W (150MA, 4000K)				6W (300MA, 4000K)				12W (700MA, 4000K)			
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P1	10W	VF	1,120	112	0	0	0	1,161	116	0	0	0	1,194	119	0	0	0	1,227	123	0	0	0	1,235	123	0	0	0
		VW	1,122	112	0	0	0	1,163	116	0	0	0	1,196	120	0	0	0	1,229	123	0	0	0	1,237	124	0	0	0
P2	15W	VF	1,806	120	1	0	0	1,872	125	1	0	0	1,925	128	1	0	0	1,978	132	1	0	0	1,992	133	1	0	0
		VW	1,809	120	1	0	0	1,876	125	1	0	0	1,929	128	1	0	0	1,982	132	1	0	0	1,996	133	1	0	0

Electrical Load

Performance Package	System Watts	Current (A)				
		120V	208V	240V	277V	347V
P1	10W	0.082	0.049	0.043	0.038	—
	12W	—	—	—	—	0.046
P2	15W	0.132	0.081	0.072	0.064	—
	18W	—	—	—	—	0.054

Lumen Multiplier for 90CRI

CCT	Multiplier
27K	0.845
30K	0.867
35K	0.845
40K	0.885
50K	0.898

Lumen Output in Emergency Mode (4000K, 80 CRI)

System	Pkg Type	Lumens
E4WH	VF	646
	VW	647

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate L87 use the Lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.95	>0.91

Electrical Load

Performance Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1 / P2SW	10W	0.082	0.049	0.043	0.038	—	—
	12W	—	—	—	—	0.046	0.033
P2 / P2SW	15W	0.132	0.081	0.072	0.064	—	—
	18W	—	—	—	—	0.054	0.041
P3 / P3SW	27W	0.195	0.114	0.100	0.088	—	—
	26W	—	—	—	—	0.079	0.058
P4	32W	0.302	0.175	0.152	0.134	—	—
	30W	—	—	—	—	0.113	0.086
P5	48W	0.434	0.249	0.211	0.184	—	—
	52W	—	—	—	—	0.157	0.119

Lumen Multiplier for 90CRI

CCT	Multiplier
27K	0.845
30K	0.867
35K	0.845
40K	0.885
50K	0.898

Lumen Output in Emergency Mode (4000K, 80 CRI)

System	Pkg Type	Lumens
E4WH	VF	646
	VW	647
E10WH	VF	1,618
	VW	1,751
E20WC	VF	2,840
	VW	2,951

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Lumen Multiplier
0°C	1.03
10°C	1.02
20°C	1.01
25°C	1.00
30°C	0.99
40°C	0.98

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Lumen Multiplier
0°C	32°F 1.03
10°C	50°F 1.02
20°C	68°F 1.01
25°C	77°F 1.00
30°C	86°F 0.99
40°C	104°F 0.98

TYPE S5B



WDGE2 LED
Architectural Wall Sconce Visual Comfort Optic

DLC Premium · DLC · MA · Buy American

20

Catalog Number	
Notes	
Type	

Specifications

Depth (D1): 7"
Depth (D2): 1.5"
Height: 9"
Width: 11.5"
Weight: (without options) 13.5 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with xLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 delivers up to 6,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

WDGE LED Family Overview

Luminaire	Optics	Standard/40K, 0°C	Cold/40K, -20°C	Lumens	Approximate Lumens (4000K, 80CRI)					
					P1	P2	P3	P4	P5	P6
WDG1 LED	Visual Comfort	4W	—	—	750	1,200	2,000	—	—	—
WDG2 LED	Visual Comfort	10W	10W	Standalone / xLight	—	1,200	2,000	3,000	4,500	6,000
WDG2 LED	Precision Refractive	10W	10W	Standalone / xLight	700	1,200	2,000	3,200	4,200	—
WDG3 LED	Precision Refractive	15W	15W	Standalone / xLight	—	2,100	3,500	5,000	7,000	—
WDG4 LED	Precision Refractive	—	—	Standalone / xLight	—	12,000	16,000	18,000	20,000	22,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI VF MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE2 LED	P1* P2* P3* P4* P5*	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K* 5000K	80CRI 90CRI	VF Visual comfort forward throw VW Visual comfort wide	MVOLT 347* 480*	Shipped included SRM Surface mounting bracket ICW Indirect Ceiling Ceiling Washer bracket (ship/factory installed only) Shipped separately AWS Wildcard architectural wall spacer PBBW Surface-mounted back box (req. left, right conduit entry). Use when there is no junction box available.

Options	Finish
E4WH Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min.) E10WH Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 0°C min.) E20WC Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min.) PE* Photocell, Button Type DS* Dual-switching (comes with 2 drivers and 2 light engines, see page 3 for details) DMG* 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately) BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points.	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

Standalone Sensors/Controls (only available with P3SW, P4SW & P5SW)

P3S Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for sensor switched fixtures with external dusk to dawn switching.
P4SW Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for sensor switched fixtures with external dusk to dawn switching.
P5SW (FC) Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation.
P5SW (FC) P Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation.

Networked Sensors/Controls (only available with P3SW, P4SW & P5SW)

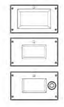
NETWLC P3S xSPACE Wireless enabled Bi-level motion/ambient sensor for 8-15' mounting height.
NETWLC P5SW xSPACE Wireless enabled Bi-level motion/ambient sensor for 15-30' mounting height.
Compatible Network Edition Components

Accessories

Ordered and shipped separately.

WSG2AWS.DBXD WSG2 Wildcard Architectural Wall Spacer (specify finish)
WSG2PBBW DBXD U WSG2 surface-mounted backbox (specify finish)

NOTES
1 PE, PS not available with sensors/controls. Sensors/controls only available with P3SW, P4SW and P5SW.
2 50K not available in WDC90.
3 347V and 480V not available with E4WH, E10WH, E20WC or sensors/controls.
4 PE not available in 480V or with sensors/controls.
5 DS option not available with E4WH, E10WH, E20WC or sensors/controls.
6 DMG option not available with sensors/controls.
7 Not qualified for DLC. Not available with emergency battery backup or sensors/controls.



Default configuration with no sensors/controls.
Power Packages: P1, P2, P3, P4, P5



Small Window (SW) configuration
Power Packages: P1SW, P2SW, P3SW



Configuration with sensors/controls
Power Packages: P1SW, P2SW, P3SW

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Color Temp	2W (150MA, 4000K)				3W (250MA, 4000K)				5W (350MA, 4000K)				6W (450MA, 4000K)				12W (700MA, 4000K)			
			Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G	Lumens	LPW	B	U	G
P1 / P1SW	10W	VF	1,166	119	0	0	0	1,209	123	0	0	0	1,251	128	0	0	0	1,256	128	0	0	0	1,254	128	0	0	0
		VW	1,197	122	0	0	0	1,241	126	0	0	0	1,284	131	0	0	0	1,289	131	0	0	0	1,286	131	0	0	0
P2 / P2SW	15W	VF	1,878	120	1	0	0	1,947	124	1	0	0	2,015	129	1	0	0	2,023	129	1	0	0	2,019	129	1	0	0
		VW	1,927	123	1	0	0	1,997	127	1	0	0	2,067	132	1	0	0	2,073	132	1	0	0	2,071	132	1	0	0
P3 / P3SW	23W	VF	2,988	129	1	0	0	3,095	134	1	0	0	3,199	138	1	0	0	3,212	139	1	0	0	3,206	139	1	0	0
		VW	2,983	132	1	0	0	3,091	137	1	0	0	3,200	142	1	0	0	3,213	143	1	0	0	3,206	142	1	0	0
P4	35W	VF	4,096	117	1	0	1	4,247	121	1	0	1	4,394	126	1	0	1	4,412	126	1	0	1	4,403	126	1	0	1
		VW	4,202	120	1	0	0	4,357	125	1	0	1	4,508	129	1	0	1	4,526	129	1	0	1	4,517	129	1	0	1
P5	46W	VF	5,567	115	1	0	1	5,772	119	1	0	1	5,972	123	1	0	1	5,996	124	1	0	1	5,984	124	1	0	1
		VW	5,711	118	1	0	1	5,921	122	1	0	1	6,127	126	1	0	1	6,151	127	1	0	1	6,139	127	1	0	1

Electrical Load

Performance Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1 / P1SW	10W	0.082	0.049	0.043	0.038	—	—
	13W	—	—	—	—	0.046	0.033
P2 / P2SW	15W	0.132	0.081	0.072	0.064	—	—
	18W	—	—	—	—	0.054	0.041
P3 / P3SW	27W	0.195	0.114	0.100	0.088	—	—
	26W	—	—	—	—	0.079	0.058
P4	32W	0.302	0.175	0.152	0.134	—	—
	30W	—	—	—	—	0.113	0.086
P5	48W	0.434	0.249	0.211	0.184	—	—
	52W	—	—	—	—	0.157	0.119

Lumen Multiplier for 90CRI

CCT	Multiplier
27K	0.845
30K	0.867
35K	0.845
40K	0.885
50K	0.898

Lumen Output in Emergency Mode (4000K, 80 CRI)

System	Pkg Type	Lumens
E4WH	VF	646
	VW	647
E10WH	VF	1,618
	VW	1,751
E20WC	VF	2,840
	VW	2,951

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative Lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Lumen Multiplier
0°C	32°F 1.03
10°C	50°F 1.02
20°C	68°F 1.01
25°C	77°F 1.00
30°C	86°F 0.99
40°C	104°F 0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate L87 use the Lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.95	>0.91

© 2019-2021 Acuity Brands Lighting, Inc. All rights reserved.

TYPE S6A S6B

ANP Lighting — Specifications W520

Project: _____
Fixture Type: _____ Quantity: _____
Customer: _____



W520 LED

Weight: 2.5 lbs

Catalog Logic: W520 - M024LDD_W_ 40K - RTCW - E6 - 100GLCL - PC - 41 - UNV
(Style/Type · Light Engine: Wattage · Distribution · CCT · Optic/Housing · Mounting · Glass & Guard · Accessories · Finish · Voltage)

Catalog Number: W520 - ① - ② - ③ - ④ - ⑤ - ⑥ - ⑦ - ⑧ - ⑨ - UNV

1 LIGHT SOURCE & WATTAGES
M012LDW (12w, 758 lumen, Cree module) Integral driver, 120V, TRIAC Dimming & nano-distribution only.
M009LDD (9w, 950 lumen, Cree module)
M018LDD (18w, 1900 lumen, Cree module)
M016LDD (16w, 2000 lumen, Cree module)
M024LDD (24w, 3000 lumen, Cree module)

2 DISTRIBUTION
W (TS Wide Distribution with Dome LED Lens)
N* (TS Narrow Distribution with Flat LED Lens)
*1 Degree is narrow only, select "N".

3 COLOR TEMPERATURE (CCT)
27K (2700K)
30K (3000K)
35K (3500K)
40K (4000K)

4 DRIVER HOUSINGS*
NA (Housing not required for TCw)
Wall Mount Options Choose Arm in Box 5
RTCW (Driver Housing for Wall only (6 arms) 6 1/2" OD x 5 5/8" H)
SRTCW (Smooth Driver Housing for Wall only (9 arms) 6" OD x 2 7/8" H)
RTCWCW (Driver Housing/No Spun Cover for Wall only (6 arms) 5 7/8" OD x 2 5/8" H)
Cord Mount Options Choose Cord Style in Box 3
CRO-RTCC (Driver Housing for Cord only; 5 1/2" OD x 5 5/8" H)
CRO-SRTCC (Smooth Driver Housing for Cord only; 6" OD x 2 7/8" H)
CRO-RTCWCC (Driver Housing/No Spun Cover for Cord only; 5 7/8" OD x 2 5/8" H)
Stem Mount Options Choose Cord Style in Box 3
SSC-RTCC (Driver Housing for Stem only; 6 1/2" OD x 5 5/8" H)
SSC-SRTCC (Smooth Driver Housing for Stem only; 6" OD x 2 7/8" H)
SSC-RTCWCC (Driver Housing/No Spun Cover for Stem only; 5 7/8" OD x 2 5/8" H)
Emergency Backup Housing Options Choose Cord Style in Box 3
CRO-DCCEM (Emergency Ballast Housing for Cord only; 6" OD x 1 1/2" H)
SSC-DCCEM (Emergency Ballast Housing for Stem only; 12" OD x 4 1/2" H)
SSC-DCCEM (Emergency Ballast Housing for Stem only; 12" OD x 4 1/2" H)
Choose Cord Style in Box 3.
*Driver Housing Bolish will match fixture finish.

5 MOUNTING SOURCES*
Arm Mounts
E1 E2 E4 E6 E8 E9 E10 E11 E12 E16 E25
Wall Mounts
WM04 WM74 WM317
Post Mounts
PM10 PM20 PM30 PM40 PM50 PM310
Cord Mounts Color & Style (See page 5 for color/paint style)
SJT Cord
BLC (B/ Black SJT Cord)
WHC (W/ White SJT Cord)
Solid Fabric Colored Cords
BLSF (B/ Black)
ORSF (O/ Orange)
GYSF (G/ Grey)
LGSF (LG/ Lime Green)
CHSF (C/ Chocolate Brown)
KGSF (K/ Kelly Green)
WHSF (W/ White)
CBSF (C/ Cobalt Blue)
CASF (C/ Cardinal)
SBSF (SB/ Sky Blue)
Patterned Fabric Colored Cords
BWHPF (B/ Black/White Houndstooth)
BWPF (B/ Brown/Ivory Houndstooth)
GYCPF (G/ Grey/Citrus Yellow)
MOSPF (M/ Magenta/Orange Stripe)
NWTPF (N/ Navy Mini Tweed)
Citizen Fabric Colored Cords
GMGF (G/ Gun Metal)
BSGF (B/ Sterling Silver)
CPGF (G/ Copper Penny)
BRGF (B/ Bronze)
GOGF (G/ Gold)
Stem Mounts
12" (13 5/8" OD) High Stems 3/4" (1" OD) Rigid Stems
3S75 3ST12 3ST18 3S76 3ST42 3ST48
3ST24 3ST30 3ST36 3ST54 3ST60 3ST66
3S750 3S772 3S796 3S760 3S772 3S786
*Arm mounts, Wall mounts or Stem finish will match fixture finish.

6 GLASS & GUARD*
Up to 24w MAX
1006GLCL (Clear Glass)
1006GLFR (Frosted Glass)
1006GLPR (Prismatic Glass)
1006GLCLGP (Clear Glass & Small Wire Guard)
1006GLFRGP (Frosted Glass & Small Wire Guard)
1006GLPRGP (Prismatic Glass & Small Wire Guard)
1006GLCLGPC (Clear Glass & Cast Guard)
1006GLFRGPC (Frosted Glass & Cast Guard)
1006GLPRGPC (Prismatic Glass & Cast Guard)
1006GLGP (Small Wire Guard with No Glass)
1006GLGPC (Cast Guard with No Glass)
*Cast or Wire Guard finish will match fixture finish.

7 ACCESSORIES*
*EMG-LED06 (6w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) **MUST CHOOSE DCCEM CANOPY IN BOX 4.**
*EMG-LED10 (10w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) **MUST CHOOSE DCCEM CANOPY IN BOX 4.**
*EMG-LED15 (16w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) **MUST CHOOSE DCCEM CANOPY IN BOX 4.**
*EMG-LED20 (20w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) **MUST CHOOSE DCCEM CANOPY IN BOX 4.**
GR20 (20" Wire Grid)**
PC (Button Photo Cell) Remote Only
SC (Shroll for Arms)**
SLC (Slotted Ceiling Mount Canopy; 20" Max)**
SQ (Square Black Holer)**
SWL (Adjustable Locking Swivel)**
TBK (Turn Bucket Kit)**
*For Emergency lumen output data; see Resources section at www.ANPlighting.com.
**Accessory finish will match fixture finish.

8 FINISHES
*Marine Grade Finish has an additional charge

Marine Grade	Number	Metric Finish	Powder Coat	Metric Finish
Aspen Green	18	10GY	High Gloss Black	01	07TR
Cornerstone	11	11NY	Arctic Silver	14	14SI
Lilac	12	12M	Candy Apple Red	54	54RD
Putty	13	13M	Cornell Blue	65	55DU
Raw Unfinished	48	NA	Duramet	86	86SV
Black	41	41M	Bullseye/Light	87	87BE
Forest Green	42	42M	Black Silver	88	88SV
Bright Red	43	43M	Dry Herbal Gray	89	89SV
White	44	44M	Mayan Gold	79	NA
Bright Blue	45	45M	Textured Desert Stone	80	80M
Sunny Yellow	46	46M	Extreme Chrome	81	81M
Aqua Green	47	47M	Graystone	82	82M
Goldenrod	49	NA	Oil Rubbed Bronze	83	83M
Navy	50	50M	Carbon Graphite	90	90M
Anti-Natural Bronze	51	51M			
Patina Verde	52	52M			
Copper Clay	53	53M			
Silver	56	56M			
Black Matte	61	61M			
Painted Chrome	78	75M			
Painted Copper	71	71M			
Textured Black	72	72M			
Matte Bronze	73	73M			
Textured Architectural	76	76M			
Textured White	77	77M			
Textured Silver	78	78M			

Consult Factory for additional paint charges and availability.

9 VOLTAGE
UNV (120-277)

© 2020 ANP Lighting. All rights reserved. These specifications are intended for general purposes only. ANP reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.
1-800-548-3227 ANPlighting.com
64451080

TYPE S6A S6B (CONT.)

ANP Lighting — Specifications W520

Project: _____
Fixture Type: _____ Quantity: _____
Customer: _____

LED MODULE SPECIFICATIONS

LED	CCT	Typical Lumens Per Foot	System Wattage	Typical Efficacy
9W	2700K	650	11W	97
	3000K	650	11W	97
	3500K	650	11W	97
	4000K	650	11W	97
10W	2700K	1250	12W	125
	3000K	1250	12W	125
	3500K	1250	12W	125
	4000K	1250	12W	125
12W	2700K	750	12W	63
	3000K	750	12W	65
	3500K	750	12W	65
	4000K	750	12W	65
16W	2700K	2000	19W	125
	3000K	2000	19W	125
	3500K	2000	19W	125
	4000K	2000	19W	125
24W	2700K	3000	29W	125
	3000K	3000	29W	125
	3500K	3000	29W	125
	4000K	3000	29W	125

MODULE SPECIFICATION:
- Efficacy 65-125 Lumens per watt
- Life: L70 50,000 hours
- Color temp: 2700K, 3000K, 3500K and 4000K
- CRI: >90.

MODULE DRIVER SPECIFICATION:
- Input Voltage: 120-277 Volts; 50/60Hz
- Dimmable down to 1%
- 0-10V, TRIAC and ELV dimming protocols are standard. (12w is 120v and TRIAC dimming only)
- Output Current: Constant Current, 440mA to 940mA (model dependent)
- Driver Efficiency > 80%; Power Factor > 0.9
- Integral Surge Protection in conformance to ANSI C62.41 Category A.

MODULE LISTINGS
- Fully compliant with the RoHS Directive
- Certifications: CE/UL

WARRANTY

See www.ANPlighting.com for complete fixture warranty.

LED warranty information:
- 5 year limited warranty*

*Limited Warranty: A typical year is defined as 4380 hours of operation

© 2020 ANP Lighting. All rights reserved. These specifications are intended for general purposes only. ANP reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.
1-800-548-3227 ANPlighting.com
64451080

ANP Lighting — Specifications W520

Project: _____
Fixture Type: _____ Quantity: _____
Customer: _____

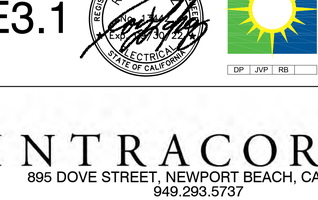
ARM MOUNTS | Dimensions are Projection x Height | CB included with all arms | Arm with match fixture finish



WALL MOUNTS | Dimensions are Projection x Height | **POST MOUNTS** | Dimensions are Projection x Height



ACCESSORIES



Driver Housings



GLASS & GUARDS

UP TO 24W MAX

Glass Legend: CL = Clear | FR = Frosted | PR = Prismatic
Guard Legend: LGP = Small Wire Guard | GPC = Cast Guard

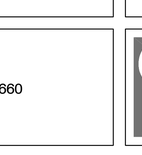
Glass Only (6 1/2" H X 4 1/8" W)



Glass with Cast Guard (7 1/2" H X 4 1/8" W)



Glass with Wire Guard (7 1/2" H X 4 1/8" W)



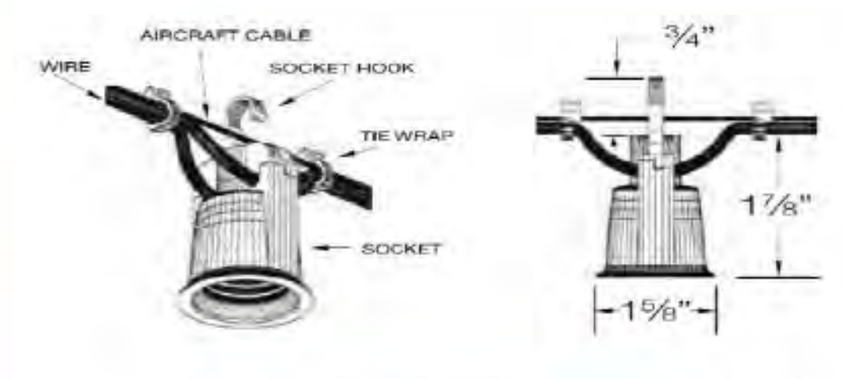
TYPE S7

PRIMUS LIGHTING — DECOSTRING SERIES
LED / INCANDESCENT

SUSPENDED DECORATIVE STRINGLIGHT SYSTEMS



PROJECT:
TYPE:



SOCKET, WIRE & CABLE DETAILS

Decostrings are a perfect accent lighting solution to add a personal ambience to patios, courtyards, atriums, restaurants, amusement parks and any open area. The "festoon" lighting system is typically strung between two anchorage points with optional intermediary support and electrically fed from one end. The sockets can be either symmetrically spaced or randomly spaced to suit the application. Optional shades, guards and lenses complete the architectual design.

SPECIFICATIONS

LAMPHOLDER	Black phenolic, medium base UL weatherproof with hook for optional mounting.
WIRE	12/2 G. Black flexible wire rated for 25A max. uv rated for outdoor use and long lasting.
SUPPORT CABLE	1/16" aircraft catenary cable supports the system, 480# test. Heavier cable available. (See Page 7)
LAMPS	LED and incandescent medium base A, G or S style lamps. (See Page 3 for Lamp Options)
ACCESSORIES	Optional brass, aluminum and acrylic shades. (See Page 4 & 5 for Shade Options) Consult factory for custom shades not shown in catalog.
GUIDELINES	Many ways to install and create a design. (See Page 6 & 7)
PHOTOMETRY	Bare lamp and shielded "BUG" rated .IES files available. (See Page 8) (Consult Factory or Visit Website)
CERTIFICATION	ETL listed for dry or wet and permanent installation. 2001431 MADE IN THE USA
VOLTAGE	120V system (1920 watts max load). No driver or transformer required. (Consult Factory for 12V/24V)
DIMMING	Dimmable down to 10% with leading or trailing edge type dimmers.

PART NUMBER

SERIES	SPACING	VOLTS	LAMP	SHADE-FINISH	TERMINATION KIT	LENGTH
DSD DRY DSW WET	12 12"O/C 18 18"O/C 24 24"O/C 36 36"O/C 48 48"O/C (OTHER, SPECIFY)	120 120V	SELECT FROM LAMP PAGE 3	OPTIONAL SELECT FROM PAGE 4 & 5 OR LEAVE BLANK	STK STANDARD KIT TBK TURN BUCKLE KIT (SEE PAGE 7)	SPECIFY

626.442.4600 • primuslighting.com

PRIMUS LIGHTING — DECOSTRING LAMPS
LED / INCANDESCENT

LED FILAMENT STYLE LAMPS



STOCK
PLED-S14F-24K-150
PLED-S14F-27K-150
FROSTED-CONSULT FACTORY
1.5W | 150L



STOCK
PLED-G16.5F-3.5W-24K
PLED-G16.5F-3.5W-27K
3.5W | 325L

PLED-G16.5F-2W-24K
PLED-G16.5F-2W-27K
2W | 200L



A15 & A19
CONSULT FACTORY
SPECIAL ORDER
(SUBJECT TO AVAILABILITY)



S14F VARIOUS COLORS
CONSULT FACTORY (SPECIAL ORDER)
(SUBJECT TO AVAILABILITY)



G25
CONSULT FACTORY
SPECIAL ORDER
(SUBJECT TO AVAILABILITY)

* NOTE: LED LAMPS DIM DOWN TO 10% WITH A TRAILING EDGE (ELV) DIMMER.

INCANDESCENT LAMPS



LE	LS	LH-C	LG
A15 CLEAR 120V 15W LF A15 CLEAR 120V 25W	S14 CLEAR 120V 11W COLORS AVAILABLE	G16.5 CLEAR 120V 25W LH-W G16.5 WHITE 120V 25W	S11 CLEAR 120V 7.5W COLORS AVAILABLE

FULL SPECIFICATION SHEETS AVAILABLE AT PRIMUSLIGHTING.COM.
PHOTOMETRY: BARE LAMP AND SHIELDED "BUG" RATED IES FILES AVAILABLE - CONSULT FACTORY

3570 LEXINGTON AVE. EL MONTE, CA 91731 • PH. 626.442.4600 FAX 626.442.4900 • primuslighting.com

TYPE S8

HYDREL

CATALOG NUMBER
NOTES
TYPE

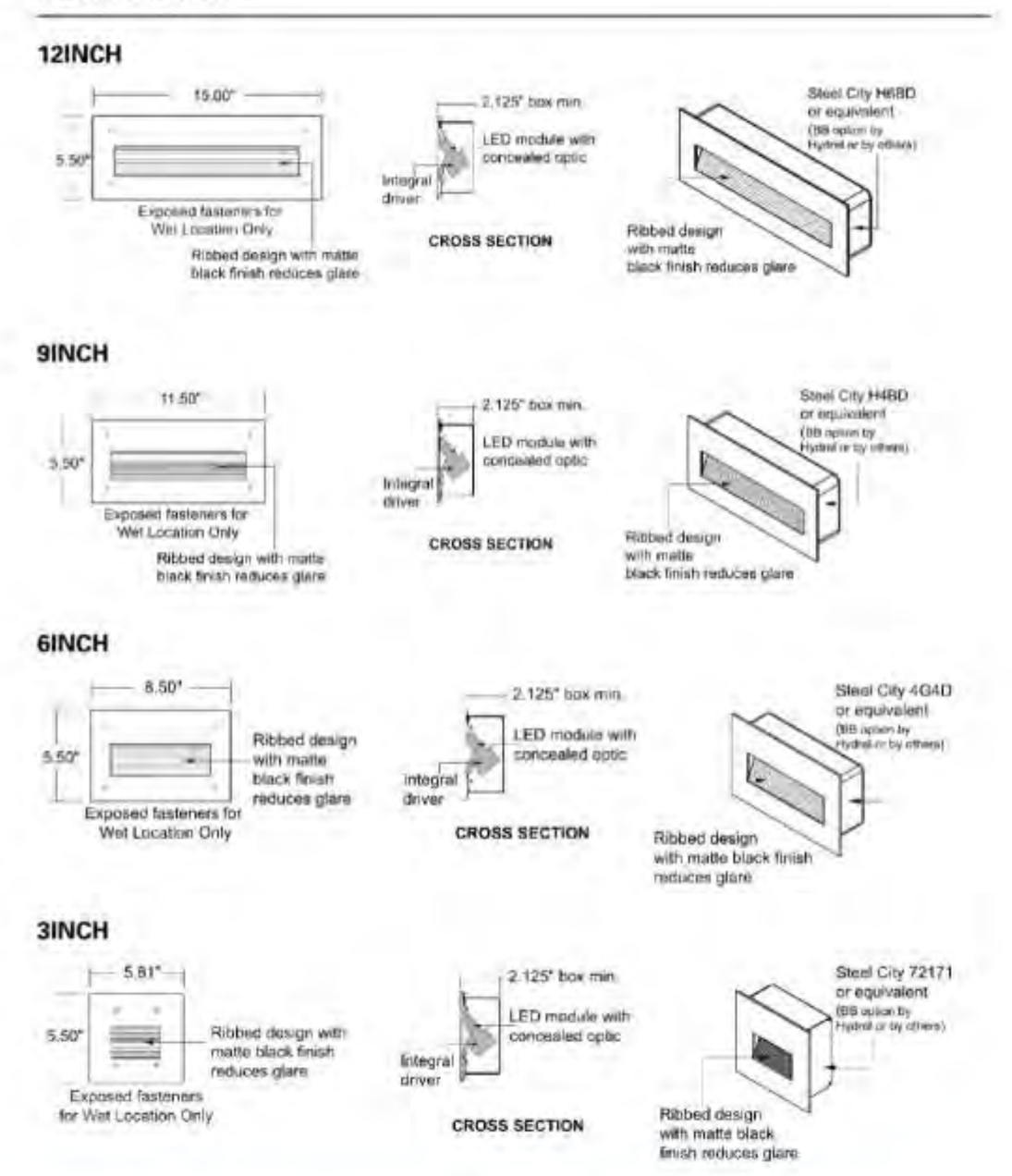


HSL13
Static White and Static Color
Step Light 13

HIGHLIGHTS
- Integral Driver
- Long throw distribution
- Standard 0-10V dimming option
- Die-cast housing with solid aluminum, brass, or stainless steel faceplate
- Wet location listed
- Back Box provided by Hydrel or by others

5 YEAR warranty · LED · Buy American

DIMENSIONS



LUMEN PACKAGES

Distribution	Delivered Lumens	Input Watts	Lumens/ Watt
3INCH	87	3	29
6INCH	194	5	36
9INCH	299	8	37
12INCH	386	11	37

Performance data based upon 30K LED

© 2013-2021 Acuity Brands Lighting, Inc. • One Lithonia Way Conyers GA 30012
Phone: 800-705-SERV (7378) • www.hydrel.com
HSL13 | Rev. 04/23/21
Page 1 of 4

HYDREL
HSL13 STEP LIGHT | 2

ORDERING INFORMATION

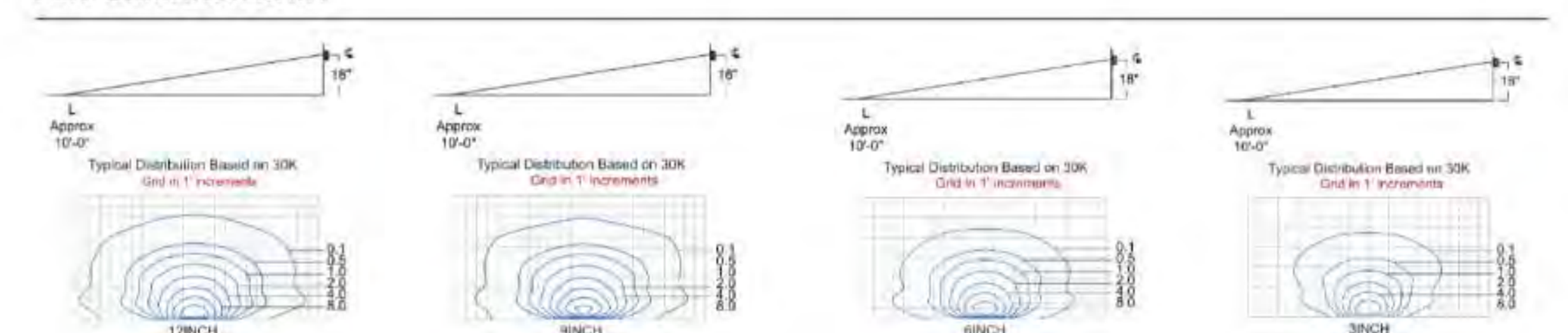
EXAMPLE: HSL13 3INCH LED 27K MVOLT L MINS BRB

Series*	Length*	Source*	Color Temperature*	Voltage*	Distribution*
HSL13 Step Light 13	3INCH 3" Nominal Length 6INCH 6" Nominal Length 9INCH 9" Nominal Length 12INCH 12" Nominal Length	LED	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K AMBPC Amber BLU Blue GRN Green RED Red CYN Cyan RDO Red-Orange	MVOLT Multi-Volt 120V thru 277V	L Long Throw

Dimming Optional	OPTION	Finish*
MINS Dimming Driver	BB Back Box Note: Include BB if you need a back box, otherwise back box is by others.	BRB Brushed Brass BBP Brushed Brass Paint BRSS Brushed Stainless Steel LBPS Light Bronze Paint Smooth PBR Polished Brass PSS Polished Stainless Steel SGB Semi Gloss Black SGW Semi Gloss White CF Custom Finish RALTBD Ral Paint Finishes Note: RALTBD for pricing only, replace with applicable RAL call out when ready to order. See the RALPROCHOICE for available options. It is recommended that Hydrel products only use textured paint.

Note: * is a required field

PERFORMANCE DATA



Expected Life: Static White LED: L70 @ 60,000 hours
Static Color LED: L70 @ 60,000 hours

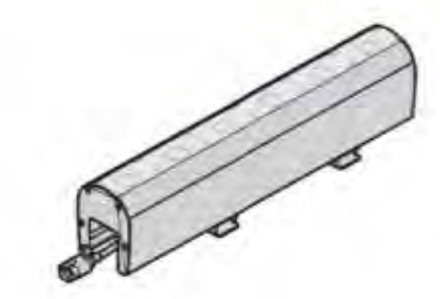
Lumen Multiplier Table for CCT

CCT	Multiplier
27K	0.963
30K	1.000
35K	1.218
40K	1.153
50K	1.208

© 2013-2021 Acuity Brands Lighting, Inc. • One Lithonia Way Conyers GA 30012
Phone: 800-705-SERV (7378) • www.hydrel.com
HSL13 | Rev. 04/23/21
Page 2 of 4

TYPE S9

LINEAR ONE EXTERIOR — ACCLAIM LIGHTING



bin·one
ams

Client:
Project:
Type:
Order Code:
Quantity:

With **Linear One**, we set out to produce a series that works with your vision instead of crowding it. Acclaim Lighting continually strives for simple goals during the design process: be useful, stay out of the way, and function wonderfully. Creativity begins with great design and Linear One is streamlined to work for you. We meticulously craft linear lights that install with no visible cables and create the clutter-free space your work deserves. This means that subtlety enhances your aesthetic as Linear One remains hidden while serving as the powerhouse behind your visual creation. Refined to work with your creativity, Linear One provides end-to-end modular functionality that adapts to your needs and never works against them. Acclaim Lighting is motivated by the passion of its users and strives to produce the very best solutions in architectural lighting. We create beautiful products that work for creativity.

SPECIFICATIONS

Colors	2700K, 3000K, 3500K, 4000K (80 CRI or 90 CRI available), Red, Green, Blue, Amber
Beam Angles	10 x 10 , 30 x 30 , 60 x 60 , 100 x 100 , 10 x 25 , 10 x 40 , 10 x 70 , 30 x 60 , 40 x 70
	Asymmetric (60 x 60 + 20 tilt), Batwing (split 10 x 40 or 40 x 70)
Housing Lengths	1' (304.8mm), 4' (1219.2mm)
Control	0-100% dimming via internal 0-10V driver, DMX via optional UDM, wireless via optional Aria
Max Fixtures in Series	80' (24m)
Power Consumption	**1':** 12W, **4':** 48W
Operating Voltage	100-277VAC, 50/60 Hz
Lumen Maintenance	L70 @ 150,000 hours (25 C)
Mounting	90 mounting bracket included, flat mounting bracket optional
Finish	Silver / finished aluminum, marine and natatorium environment capability standard
Material	Aluminum body - Type III hard coat anodized, polycarbonate lens
Ambient Operating Temperature	-40 F to 131 F (-40 C to 55 C)
IP Rating	IP66, wet location - marine enviornment housing standard
IK Rating	IK10, protection against 5 joule impact (40cm distance)
Fixture Connectors	IP66 End to end multi-pin connection cables included
Warranty	5 Years, limited
Weight	**1':** 2.4 lbs, **4':** 9.7 lbs
Dimensions	**L:** 12" / 48" **W:** 2.12" **H:** 3.39" (L: 305 / 1220 W: 54 H: 86.2mm)
Certifications	ETL CE

1
acclaimlighting.com
SPECIFICATION SHEET 2.1.2
Specifications subject to change without notice

LINEAR ONE EXTERIOR — ACCLAIM LIGHTING

ORDER CODES

* indicates special order

LNE# - COL# - OPT#

Length:
A = 1'
D = 4'

Color & CRI:
A = 2700K, 80 CRI
C = 3000K, 80 CRI
D = 3500K, 80 CRI
E = 4000K, 80 CRI
F = 2700K, 90 CRI*
G = 3000K, 90 CRI*
H = 3500K, 90 CRI*
J = 4000K, 90 CRI*
K = Red
L = Green
M = Blue
N = Amber

Optics:
C = 10 x 10
G = 30 x 30
K = 60 x 60
L = 100 x 100
M = 10 x 40
N = 10 x 25
R = 10 x 60
Q = 30 x 60
S = 45 x 75
T = Asymmetric WallWash (60 x 60 + 20 tilt)
V = Batwing (split 10 x 40)
W = Batwing (split 45 x 75)

RELATED COMPONENTS

Feed Cables

LNFC10
10' Feed Cable for Linear One Exterior
Multi-pin connector to bare wire AC + 0-10V

LNFC50
50' Feed Cable for Linear One Exterior
Multi-pin connector to bare wire AC + 0-10V

Link Cables

LNLC0
6" Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector, use for curved runs

LNLC1
1' Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector

LNLC5
5' Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector

LNLC10
10' Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector

2
acclaimlighting.com
SPECIFICATION SHEET 2.1.2
Specifications subject to change without notice

TYPE S9 (CONT.)

LINEAR ONE EXTERIOR — ACCLAIM LIGHTING

RELATED COMPONENTS

Optional Mounting Accessories

LNMT1
1' mounting track for Linear One
Aluminum profile, screws not included

LNMT4
4' mounting track for Linear One
Aluminum profile, screws not included

LNEB1
1' extender bar for Linear One
Aluminum body, screws not included

LNEB2
2' extender bar for Linear One
Aluminum body, screws not included

LNEB3
3' extender bar for Linear One
Aluminum body, screws not included

LNFMB
Flat Mounting Bracket for Linear One
2 pcs required per fixture, factory fitted option

Optional Beam Accessories

LNEGS1
1' single sided glare shield for Linear One Exterior

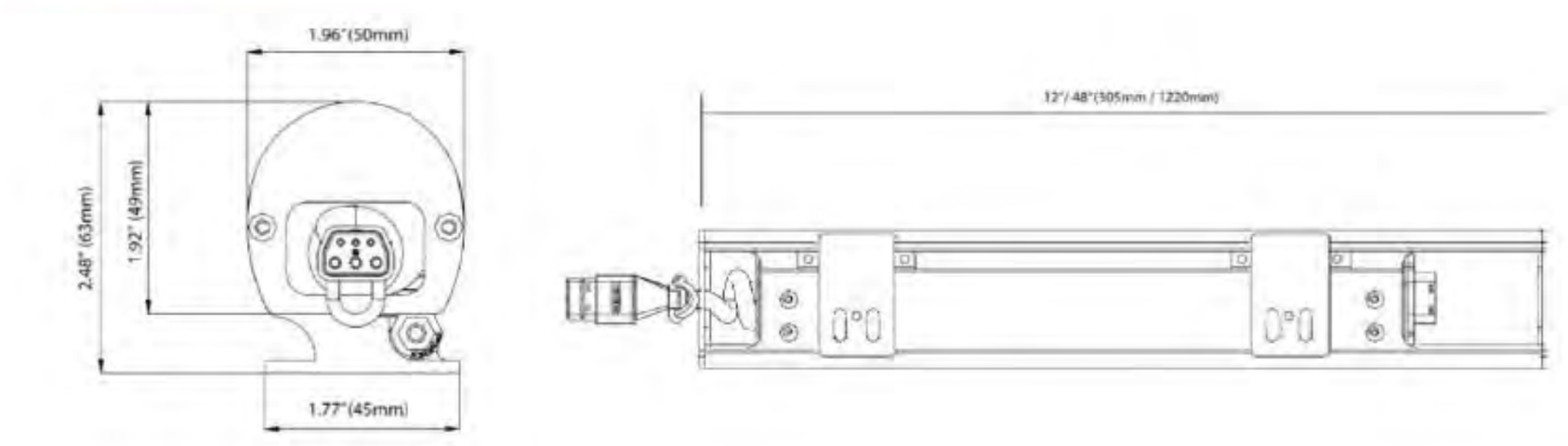
LNEGS4
4' single sided glare shield for Linear One Exterior

LNELV1
1' full louver for Linear One Exterior (use 4 pcs. for 4' fixture)

3
acclaimlighting.com
SPECIFICATION SHEET 2.1.2
Specifications subject to change without notice

LINEAR ONE EXTERIOR — ACCLAIM LIGHTING

DIMENSIONS



PHOTOMETRICS

80 CRI Versions, 10 x 10 , 1'

Color	Lumens(per foot)	Max Candela	Efficacy (l/pw)	CRI	TM30
2700K	739	5643	63	81.1	81.2
3000K	788	6291	67	82.8	81.3
3500K	772	5897	66	84.3	82.6
4000K	770	5790	65	85.4	83.2

90 CRI Versions, 10 x 10 , 1'

Color	Lumens(per foot)	Max Candela	Efficacy (l/pw)	CRI	TM30
2700K	574	4577	49	90.6	93
3000K	544	3844	47	93	89.2
3500K	569	4012	48	93.8	88.7
4000K	579	4703	48	90.1	90

4
acclaimlighting.com
SPECIFICATION SHEET 2.1.2
Specifications subject to change without notice

E3.2

ROY L. LOPEZ — REGISTERED PROFESSIONAL ENGINEER — No. 1344 — Exp. 09/30/22 — ELECTRICAL — STATE OF CALIFORNIA

SALASO'BRIEN | expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING FIXTURE CUTSHEETS

NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

EE

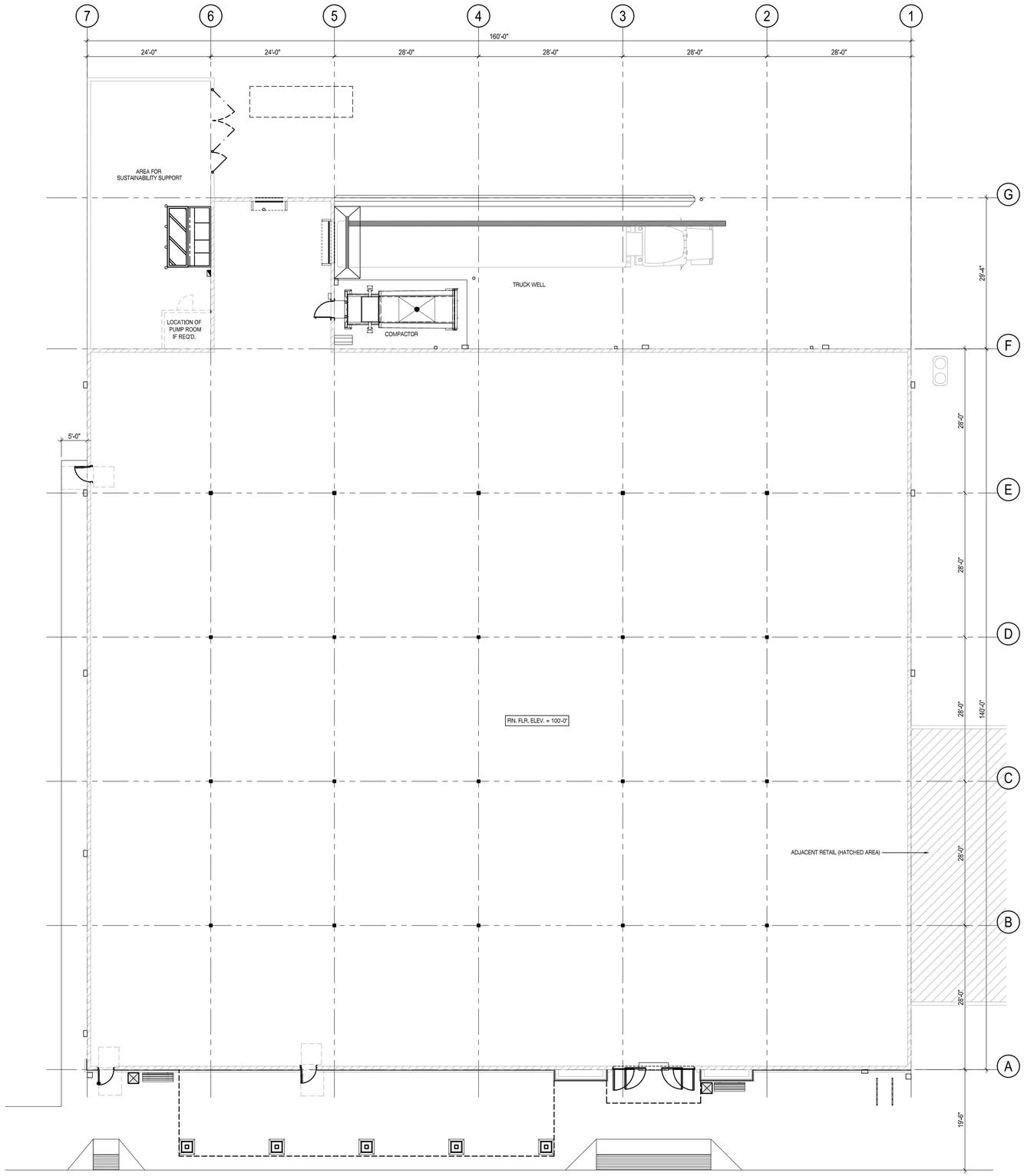
AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720
©GK PIERCE ARCHITECTS, INC. 2021

Last saved by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E32.dwg 11/23/2021 11:44
Last plotted by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E32.dwg 04/19/2022 15:53



PRELIMINARY FLOOR PLAN

SCALE: 3/32" = 1'-0"

1

62931034

COPYRIGHT NOTICE:
THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE CONTEMPORANEOUSLY WITH ITS ISSUE DATE AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

brr
ARCHITECT OF RECORD: MARIAH B. MEYER
8131 METCALF AVENUE, SUITE 550, OVERLAND PARK, KANSAS 66204

SPROUTS
FARMERS MARKET
WILDOMAR, CA 92595

SPROUTS FARMERS MARKET
BUILD TO SUIT (NBTS)
WILDOMAR, CA (#462)

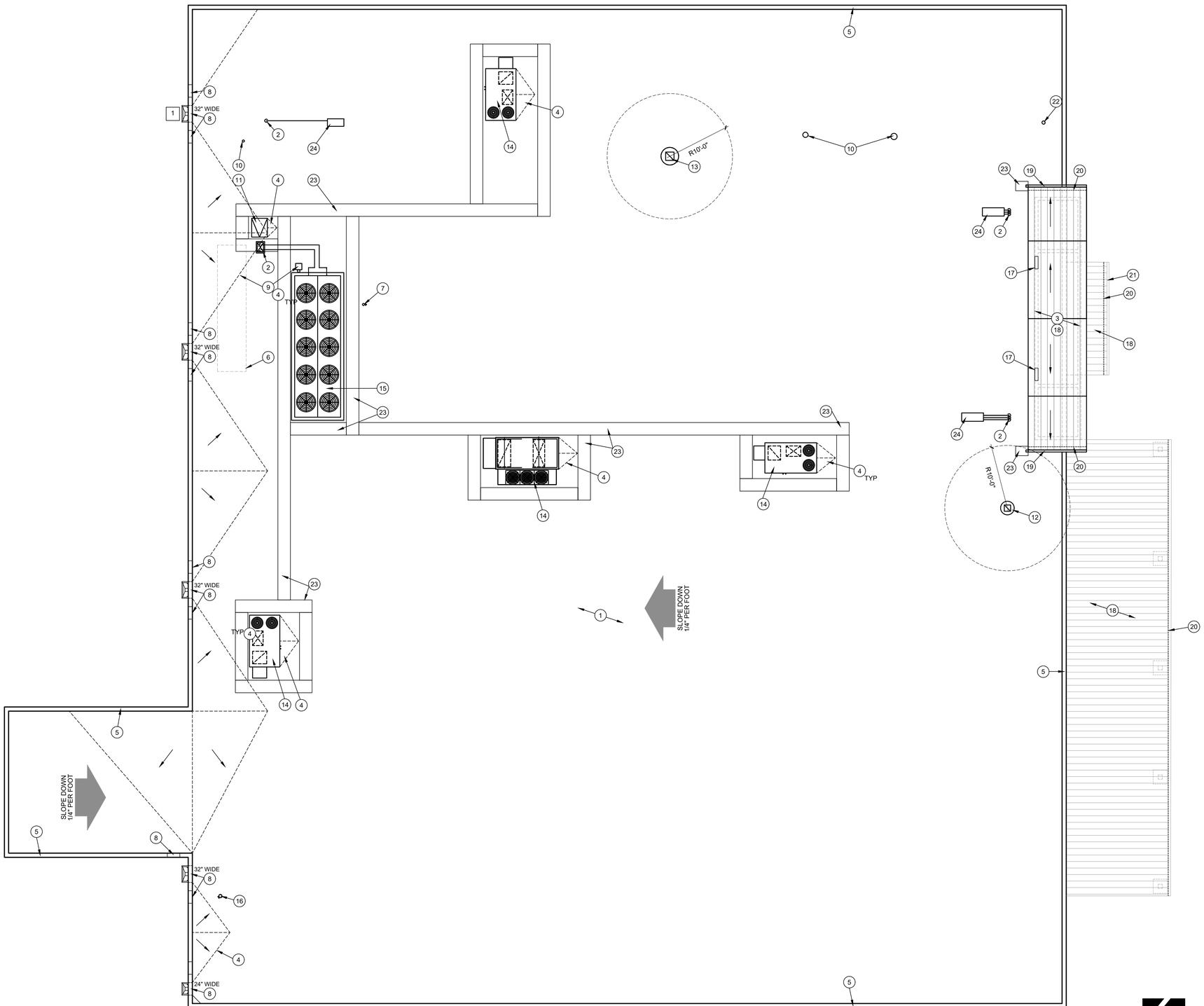
PRELIMINARY FLOOR PLAN

DATE:	04-18-22
DRAWN BY:	MMM
CHECKED BY:	
SCALE:	AS NOTED
PROJECT NUMBER:	62931034

SHEET:
PA1.0

REV:

NORTH



KEYNOTES:

1. CLASS 'A' SINGLE PLY T.P.O. ROOF WITH R-30 INSULATION ON METAL ROOF DECK. REF SPECS.
2. PROVIDE OPENING IN ROOF FOR REFRIGERATION LINES
3. TOWER STRUCTURE SHOWN DASHED BELOW.
4. ROOF CRICKET, WOOD FRAME OR RIGID INSULATION FOR 1/4" PER FOOT SLOPE MINIMUM.
5. 24 GAUGE METAL FLASHING AT PARAPET - PAINT.
6. LINE OF REFRIGERATION RACKS BELOW.
7. HOSE BIB 6" ABOVE FINISH ROOF.
8. PRIMARY SCUPPER (SEE PLAN FOR SIZE) & 24" ADJACENT OVERFLOW SCUPPER.
9. WEATHER STATION BY REFRIGERATION CONTRACTOR. VERIFY LOCATION WITH REFRIGERATION DRAWINGS.
10. FLUE / VENT THRU ROOF. MIN. 2'-0" FROM PARAPET, 10'-0" FROM AIR-INTAKE ON HVAC UNITS.
11. ROOF ACCESS HATCH AND LADDER.
12. RESTROOM EXHAUST FAN.
13. ONE HOUR FIRE RATED EXHAUST HOOD DUCT SHAFT ENCLOSURE.
14. HVAC UNIT. FOR CURB.
15. REFRIGERATION EQUIPMENT ON ROOF. FOR LEVEL STEEL PLATFORM.
16. COMBUSTION AIR INTAKE.
17. LOUVERED ACCESS PANEL AT BACK OF TOWER.
18. STANDING SEAM METAL ROOF ON (2) LAYER 30# FELT ON EXTERIOR SHEATHING OVER METAL FRAMING.
19. 4" x 4" BOX SHAPE, METAL GUTTER WITH 2" DIAMETER DOWNSPOUT. INCLUDE SPLASH GUARD AT ROOF, INSTALLED DIRECTLY UNDER DOWNSPOUT.
20. SNOW GUARD RAILS (IN ZONES 4 AND COLDER) ON STANDING SEAM ROOF WITH TABS EXTENDING DOWN BETWEEN RAISED SNAP-LOCK SEAMS.
21. 4" x 4" BOX SHAPE, METAL GUTTER. INSTALL LEVEL AND PROVIDE DRAINAGE HOLE AT THE BOTTOM OF EACH END.
22. COMMUNICATION ANTENNA; G.C. TO PROVIDE 2" CONDUIT, PULL STRING AND WEATHER PROOF ROOF JACK FOR COAT CABLE.
23. WALKWAY PADS TYPICAL.
24. CONDENSING UNIT. REF MECHANICAL.

GENERAL NOTES:

1. SEE MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL NOTES AND DETAILS.
2. VERIFY LOCATIONS OF ALL ROOF PENETRATIONS WITH STRUCTURAL, PLUMBING, MECHANICAL AND ARCHITECTURAL DRAWINGS.
3. ALL EQUIPMENT ON ROOF TO BE MOUNTED ON LEVEL CURBS.
4. ALL VENT LOCATIONS TO BE COORDINATED WITH PLUMBING AND MECHANICAL DRAWINGS.
5. EXHAUST FANS AND VENTS TO BE LOCATED A MINIMUM OF 10'-0" FROM HVAC INTAKE. VERIFY ALL LOCATIONS WITH PLUMBING AND MECHANICAL DRAWINGS.
6. ALL MECHANICAL DUCT DROP LOCATIONS DIMENSIONED TO CENTER OF HVAC OPENING. VERIFY EXACT LOCATION. INTENT OF LAYOUT IS TO ALIGN EDGE OF CURB ON STRUCTURAL PURLIN. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
7. MECHANICAL SUBCONTRACTOR TO COORDINATE INSTALLATION AND ACCEPTANCE OF PREFABRICATED CURBS AND PENETRATIONS WITH ROOF MEMBRANE SUBCONTRACTOR. GENERAL CONTRACTOR TO PROVIDE ALL NECESSARY BLOCKING, NAILING, ETC. AS NECESSARY FOR A WATERTIGHT AND WATERPROOF BUILDING.
8. IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO VERIFY, COORDINATE AND / OR INSTALL ALL ADJACENT AND / OR RELATED FLASHING, BLOCKING, NAILERS, CRICKETS, ETC. NECESSARY FOR THE COMPLETE INSTALLATION OF THE ROOF MEMBRANE WHICH IS REQUIRED FOR A COMPLETE, WARRANTED, WATERTIGHT, WATERPROOF INSTALLATION.
9. IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO VERIFY HEIGHT ELEVATION OF ROOF DECK AND ENTRY GABLE WITH STRUCTURAL DRAWINGS.
10. ROOF PENETRATIONS TO BE MINIMUM 2'-0" FROM EDGE OF ROOF OR PARAPETS.
11. GENERAL CONTRACTOR TO PROVIDE ONE (1) 3/4" CONDUIT FOR MUZAK COAXIAL CABLE PENETRATION. VERIFY EXACT LOCATION WITH SPROUTS. (LOCATE, CLOSE AS POSSIBLE, TO MANAGER'S OFFICE).
12. WOOD BLOCKING UNDER MANUFACTURED CURBS IS TO BE FLUSH WITH TOP OF RIGID (ROOF) INSULATION (MINIMUM) AND IS TO BE FLAT AND LEVEL. PROVIDE 5 1/2" MINIMUM WIDTH FRAMING AS NECESSARY FULL PERIMETER OF OPENING.
13. GENERAL CONTRACTOR TO PROVIDE WALKWAY PADS AROUND ALL ROOFTOP EQUIPMENT WITH A CONNECTED PATH LEADING TO THE ROOF HATCH.

PRELIMINARY ROOF PLAN

SCALE: 1/8" = 1'-0"

1

62931034

COPYRIGHT NOTICE:
THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE CONTEMPORANEOUSLY WITH ITS ISSUE DATE AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

brr
ARCHITECT OF RECORD: MARIAH B. MEYER
8131 METCALF AVENUE, SUITE 300, OVERLAND PARK, KANSAS 66204

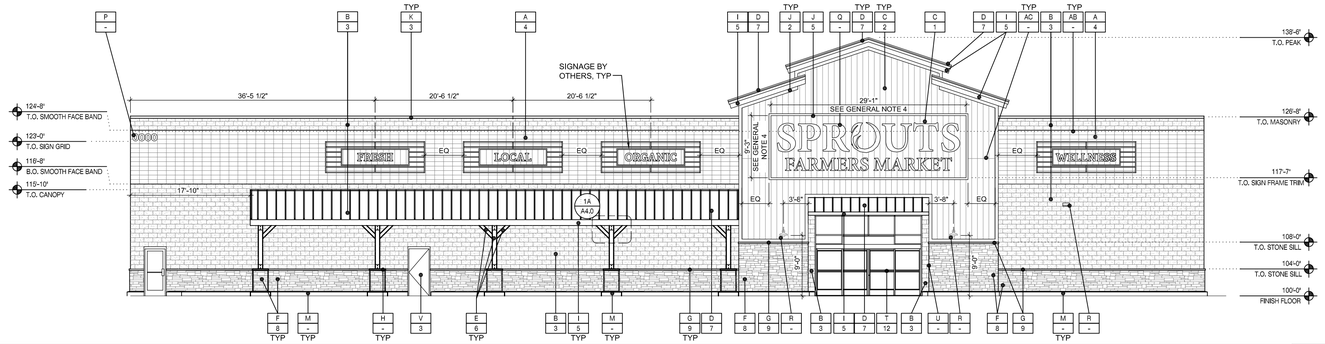
SPROUTS FARMERS MARKET
WILDOMAR, CA 92595

SPROUTS FARMERS MARKET
BUILD TO SUIT (NBTS)
WILDOMAR, CA (#462)

PRELIMINARY ROOF PLAN

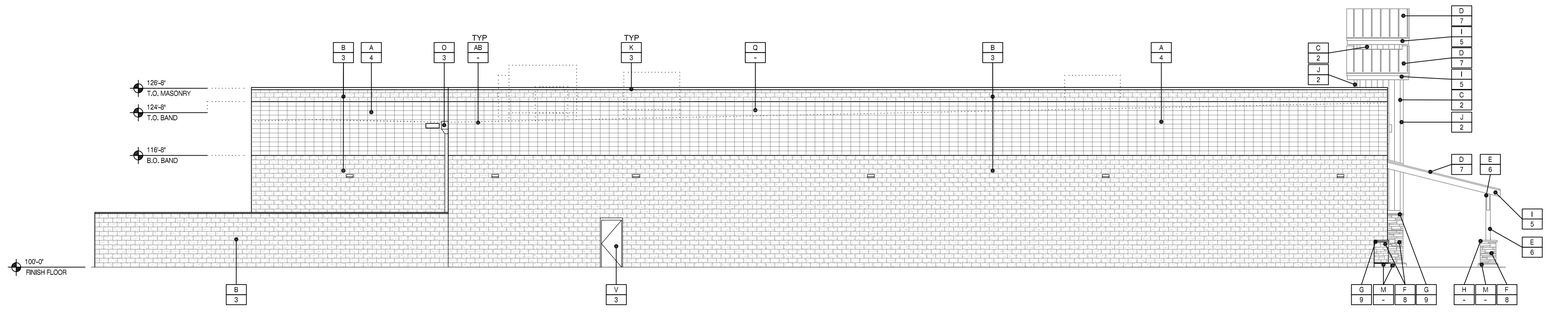
DATE:	04-18-22
DRAWN BY:	MMM
CHECKED BY:	XX
SCALE:	
PROJECT NUMBER:	62931034
SHEET:	PA3.0
REV:	

2620



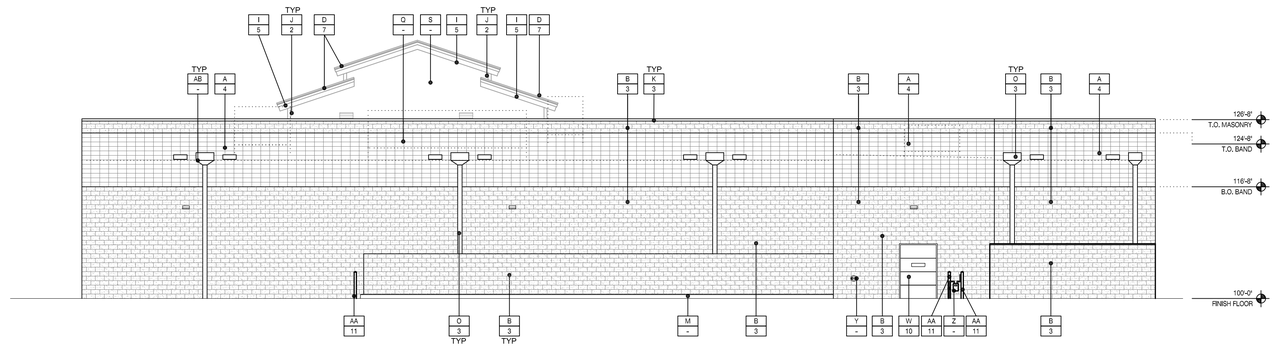
FRONT (SOUTH) ELEVATION

SCALE: 3/32" = 1'-0" — 1



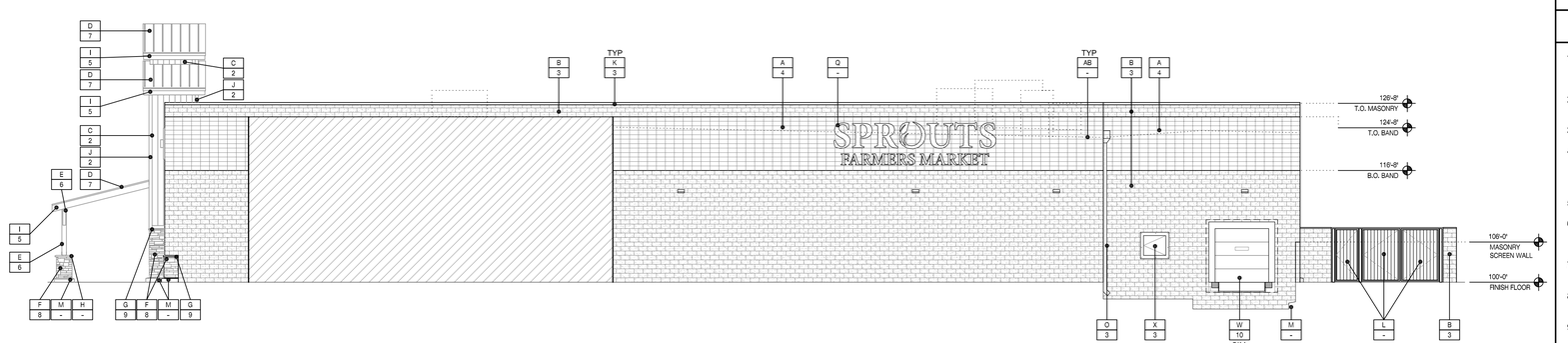
SIDE (WEST) ELEVATION

SCALE: 3/32" = 1'-0" — 2



REAR (NORTH) ELEVATION

SCALE: 3/32" = 1'-0" — 3



SIDE (EAST) ELEVATION

SCALE: 3/32" = 1'-0" — 4

MATERIAL KEYNOTES:

A	SMOOTH FACE C.M.U. BLOCK - STACKED BOND
B	SPLIT FACE C.M.U. BLOCK - RUNNING BOND
C	HARDIE BOARD ARTISAN SQUARE CHANNEL SIDING - VERTICAL
D	BERRIDGE STANDING SEAM ROOFING
E	SOLID WOOD
F	CORONADO STONE VENEER
G	CORONADO STONE SILL
H	PRECAST CONCRETE CAP - AT COLUMNS ONLY
I	HARDIE BOARD FIBER CEMENT FASCIA TRIM
J	HARDIE BOARD ARTISAN FIBER CEMENT TRIM
K	METAL - PAINTED
L	BLACK ORNAMENTAL METAL FENCE
M	CONCRETE CURB
N	NOT USED
O	ROOF DRAIN, DOWN SPOUT, AND ROOF OVERFLOW SCUPPER. PAINT TO MATCH ADJACENT SURFACE. U.N.O.
P	BUILDING ADDRESS, VERIFY NUMBERS, LOCATION AND HEIGHT WITH FIRE MARSHAL (12" HIGH MIN.) NUMBERS MUST CONTRAST WITH BACKGROUND
Q	LOCATION OF FUTURE SIGN - GENERAL CONTRACTOR TO INSTALL J-BOX FOR EACH SIGN, SIGNAGE UNDER SEPARATE PERMIT
R	LIGHT FIXTURE REF. ELECTRICAL.
S	PARAPET WATERPROOFING MEMBRANE
T	AUTOMATIC SLIDING DOORS. G.C. SHALL WRAP EXTERIOR SIDE OF ANY WOOD BLOCKING OR SHIMS WITH BRAKE METAL MATCHING STOREFRONT FINISH.
U	KNOX BOX - MOUNT AT +52" ABOVE FINISH FLOOR CONFIRM FINAL LOCATION WITH AHJ.
V	HOLLOW METAL DOOR AND FRAME. PAINT TO MATCH ADJACENT SURFACE..
W	OVERHEAD DOOR AND FRAME - AT SIM. CONDITION OVERHEAD DOOR AND FRAME AND DOCK SEALS. PROVIDE 16" OF SMOOTH FACE BLOCK AROUND ENTIRE OVERHEAD SIM DOOR.
X	COMPACTOR DOOR.
Y	FIRE DEPARTMENT CONNECTION
Z	GAS METER, PAINT TO MATCH ADJACENT WALL OR COLOR AS REQUIRED BY AHJ. ENSURE IT IS LABELED PER AHJ REQUIREMENTS.
AA	BOLLARD
AB	LINE OF ROOF BEYOND, HVAC, AND REFRIGERATION SHOWN DOTTED

COLOR SCHEDULE:

1	PPG - 1099-1 - ALWAYS ALMOND
2	PPG - 1142-6 - JERICHO JADE
3	PPG - 1028-6 - MOMENTUM
4	PPG - 1032-2 - HURRICANE HAZE
5	PPG - 1005-7 - DARK GRANITE
6	FLOOD WOOD STAIN - SEMI-TRANSPARENT - TOBACCO
7	BERRIDGE - AGED BRONZE
8	CORONADO - OLD WORLD LEDGE - MONARCH
9	CORONADO - 900 SERIES - GREY
10	PREFINISHED BY MFR. - WHITE
11	TRAFFIC YELLOW
12	DARK BRONZE

GENERAL NOTES:

1. GENERAL CONTRACTOR TO VERIFY MOUNTING HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION OF ALL PERIMETER WALL PACK LIGHTING. (16'-0" ABOVE FINISH FLOOR TYPICAL U.N.O.).
2. HOLLOW METAL DOORS / OVERHEAD DOORS, DOWNSPOUTS, AND GUTTERS - PAINT TO MATCH ADJACENT WALL.
3. ALL SIGNAGE UNDER SEPARATE PERMIT. COORD. W/ SIGNAGE VENDOR
4. EXTENTS OF FIBER CEMENT TRIM SURROUND ARE SHOWN FOR BIDDING PURPOSES. PRIOR TO INSTALLATION OF FURRING CHANNELS AND FINISH MATERIALS GC SHALL COORDINATE WITH SIGNAGE VENDOR AND ARCHITECT TO CONFIRM REQUIRED DIMENSIONS. EXTENTS OF FIBER CEMENT TRIM SURROUND VARY WITH SIZE OF SIGN ALLOWED BY AHJ.
5. GRIND ALL METAL EDGES (INCLUDING TRIM AND FLASHING) FOR A SMOOTH FINISH.
6. PROVIDE JUNCTION BOXES FOR MAIN SIGN AND (4) ADDITIONAL JUNCTION BOXES FOR FUTURE SIGNS. REF. ELECTRICAL. VERIFY LOCATIONS AND NUMBER OF SIGNS WITH SPROUTS PRIOR TO INSTALLATION.
7. GENERAL CONTRACTOR TO POWER WASH EXTERIOR WALLS AND ENTRANCE WALK AT A MINIMUM PRIOR TO STORE OPENING.
8. GENERAL CONTRACTOR TO COORDINATE INSTALLATION OF "NOW HIRING" & "COMING SOON" BANNER 80-DAYS PRIOR TO OPENING.
9. GENERAL CONTRACTOR TO COORDINATE INSTALLATION OF "OPENING DATE" BANNER 30-DAYS PRIOR TO OPENING.
10. PROVIDE CONTROL JOINTS IN CMU WALLS AS LOCATED BY STRUCTURAL.

62931034

COPYRIGHT NOTICE:
THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE CONTEMPORANEOUSLY WITH ITS ISSUE DATE AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

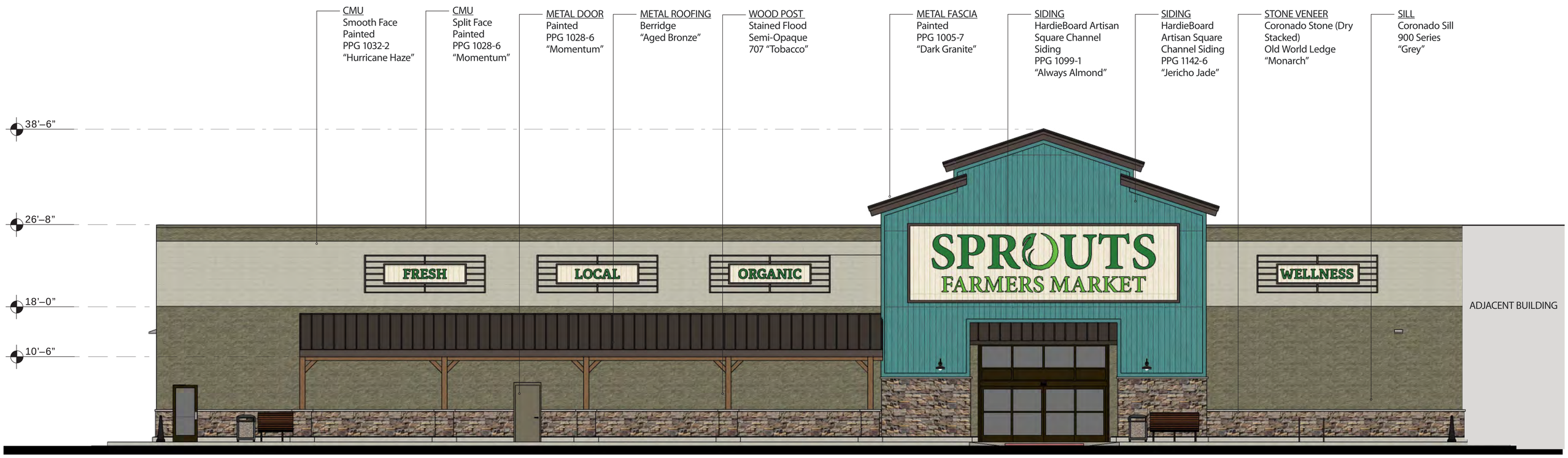
brr
ARCHITECT OF RECORD: MARIAN B. MEYER
8131 METCALF AVENUE, SUITE 350, OVERLAND PARK, KANSAS 66204

SPROUTS FARMERS MARKET
WILDOMAR, CA 92595

SPROUTS FARMERS MARKET
BUILD TO SUIT (NBTS)
WILDOMAR, CA (#462)

PRELIMINARY EXTERIOR ELEVATIONS

DATE:	04-18-22
DRAWN BY:	MMM
CHECKED BY:	
SCALE:	AS NOTED
PROJECT NUMBER:	62931034
SHEET:	PA4.0
REV:	



Front Elevation

NTS

5′ 10′ 20′ 30′ 50′

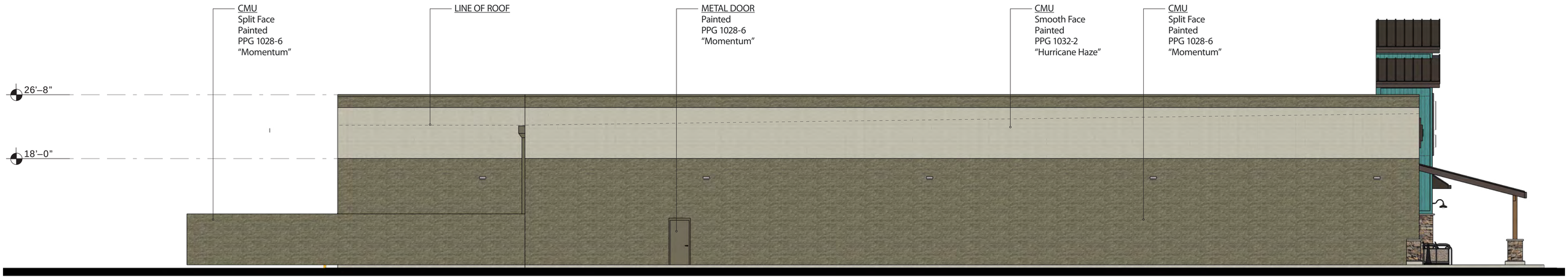
Sprouts Farmers Market | Wildomar (CA)

Exterior Elevations

June 10, 2022

DESIGN REPRESENTATION ONLY - NOT FOR CONSTRUCTION - The images provided throughout this package are a representation of the current design intent only. The images may not reflect variations in color, tone, hue, tine, shading, ambient light intensity, materials, texture, contrast, font style and construction variations required by building codes or inspectors, material availability or final design detailing. All images and artwork associated/provided should be reviewed by the client with their print and/or production vendors and adjusted as needed during the proof and shop drawing submittals. Those client-approved drawings take precedence and provide final direction for design, printing and production.

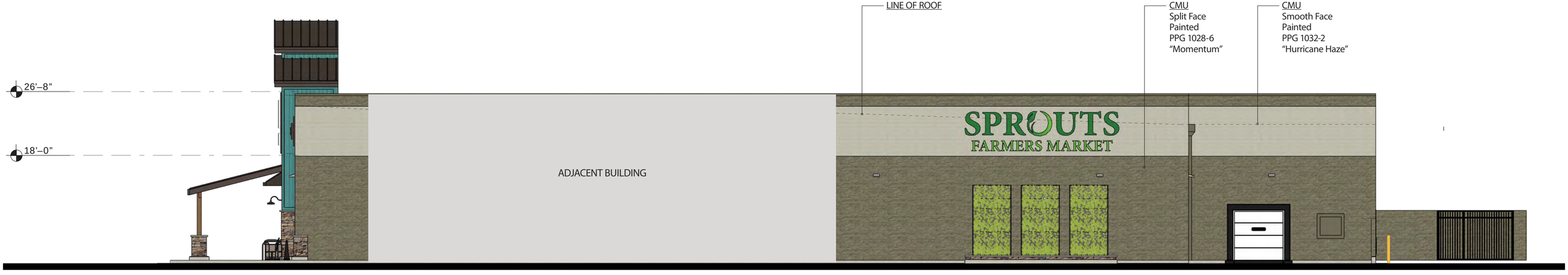
brr



Left Elevation

NTS

5′ 10′ 20′ 30′ 50′



Right Elevation

NTS

5′ 10′ 20′ 30′ 50′

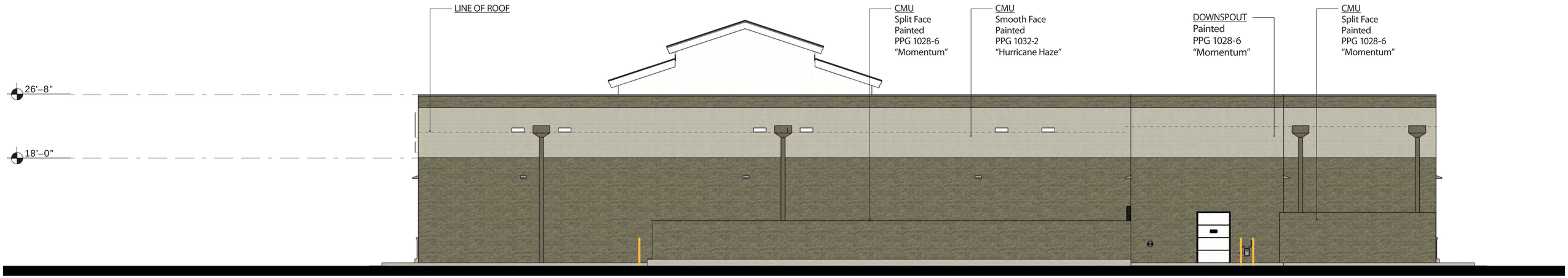
Sprouts Farmers Market | Wildomar (CA)

Exterior Elevations

June 10, 2022

DESIGN REPRESENTATION ONLY - NOT FOR CONSTRUCTION - The images provided throughout this package are a representation of the current design intent only. The images may not reflect variations in color, tone, hue, tine, shading, ambient light intensity, materials, texture, contrast, font style and construction variations required by building codes or inspectors, material availability or final design detailing. All images and artwork associated/provided should be reviewed by the client with their print and/or production vendors and adjusted as needed during the proof and shop drawing submittals. Those client-approved drawings take precedence and provide final direction for design, printing and production.

brr



Rear Elevation

NTS

5′ 10′ 20′ 30′ 50′

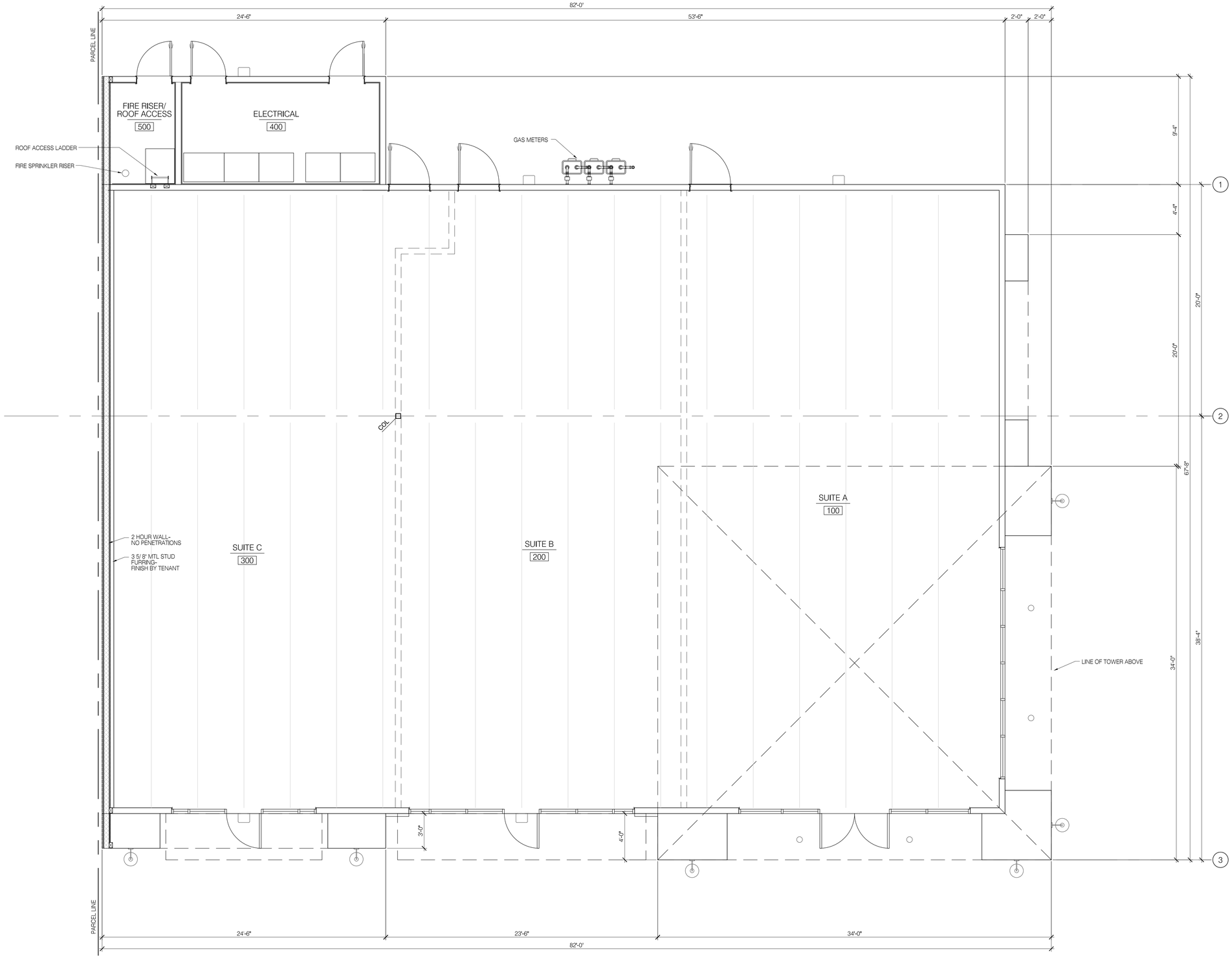
Sprouts Farmers Market | Wildomar (CA)

Exterior Elevations

June 10, 2022

DESIGN REPRESENTATION ONLY - NOT FOR CONSTRUCTION - The images provided throughout this package are a representation of the current design intent only. The images may not reflect variations in color, tone, hue, tine, shading, ambient light intensity, materials, texture, contrast, font style and construction variations required by building codes or inspectors, material availability or final design detailing. All images and artwork associated/provided should be reviewed by the client with their print and/or production vendors and adjusted as needed during the proof and shop drawing submittals. Those client-approved drawings take precedence and provide final direction for design, printing and production.

brr



PROJECT DATA

2019 CBC

BUILDING AREA:	4,213 SF
TYPE OF CONSTRUCTION:	V-N (FIRE SPRINKLERED)
OCCUPANCY:	M, A-2, B

SHOPS 1
FLOOR PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

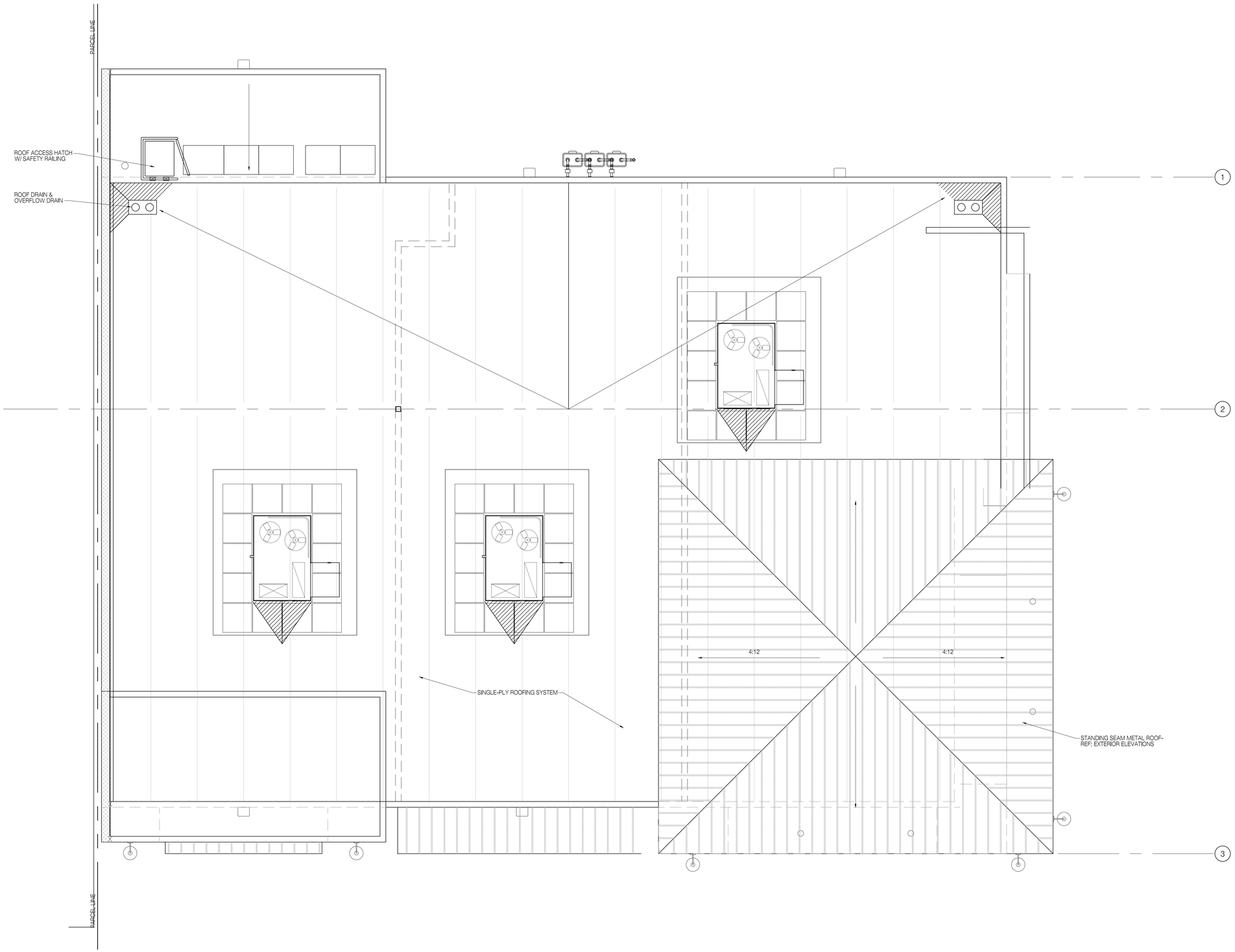
WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKPIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



SHOPS 1
ROOF PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

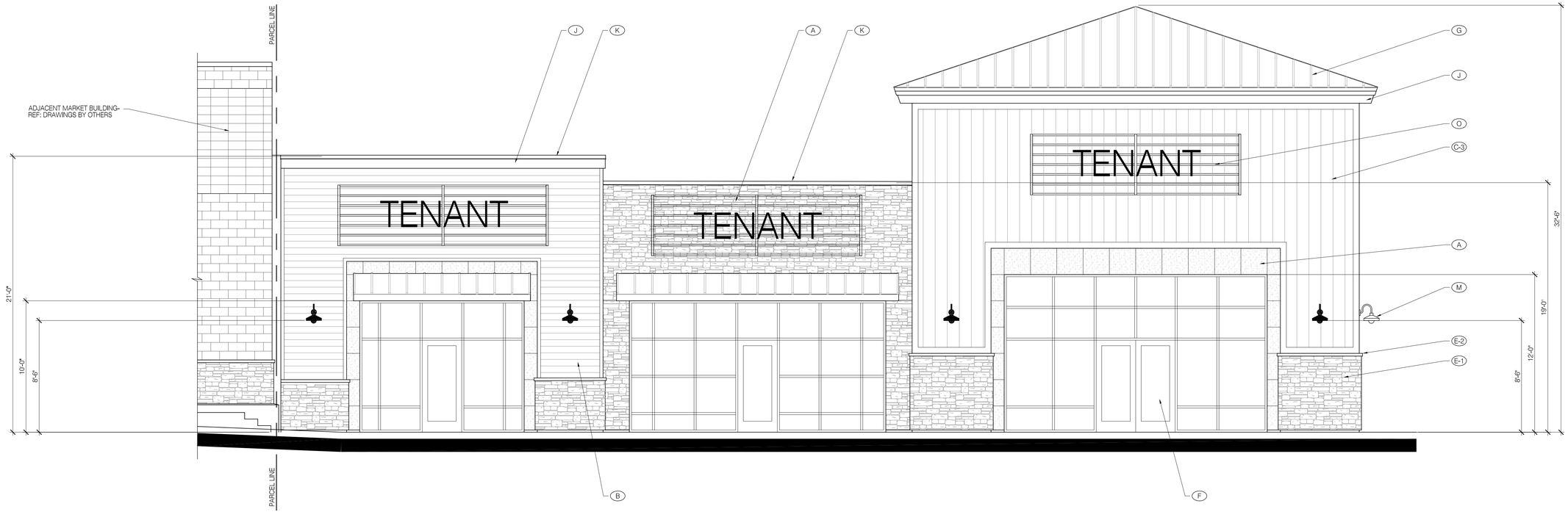
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

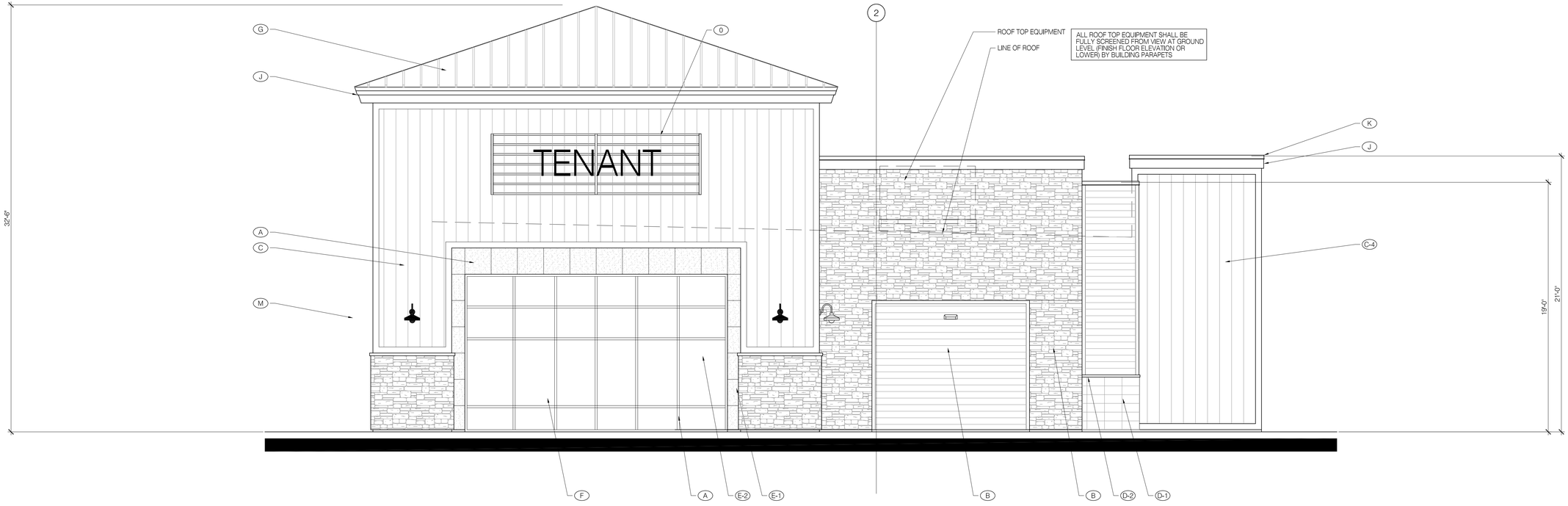
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SOUTH ELEVATION



EAST (WILDOMAR TRAIL) ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#/MF-#/L40K-UL-BZ

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

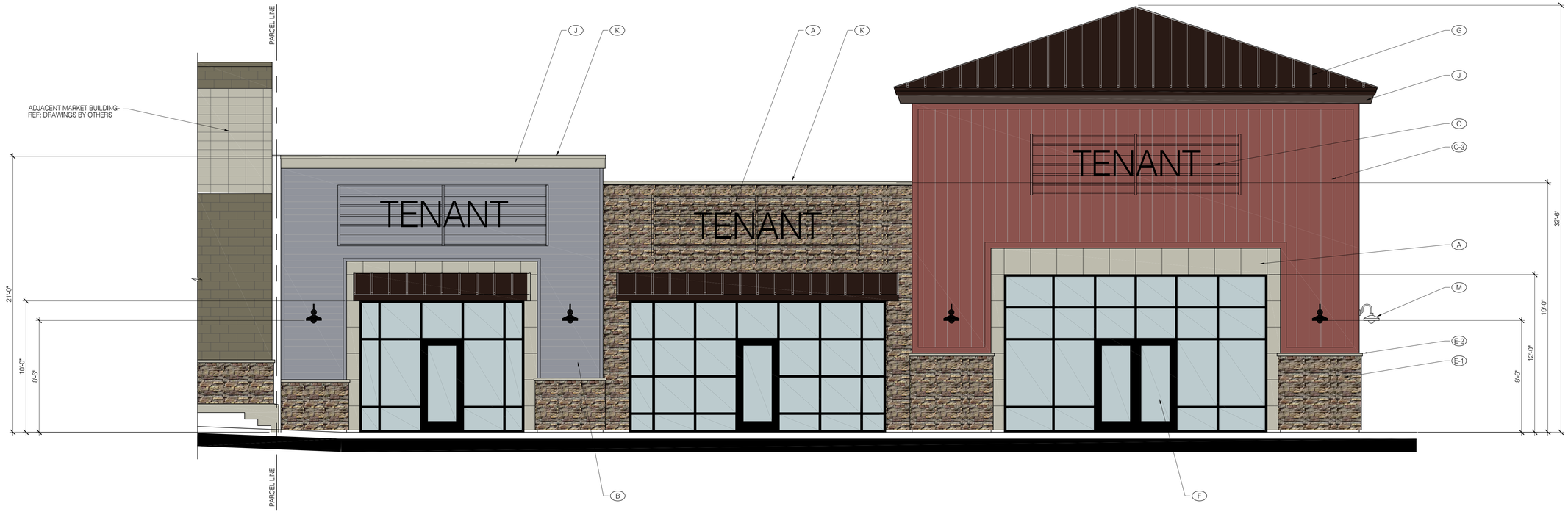
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

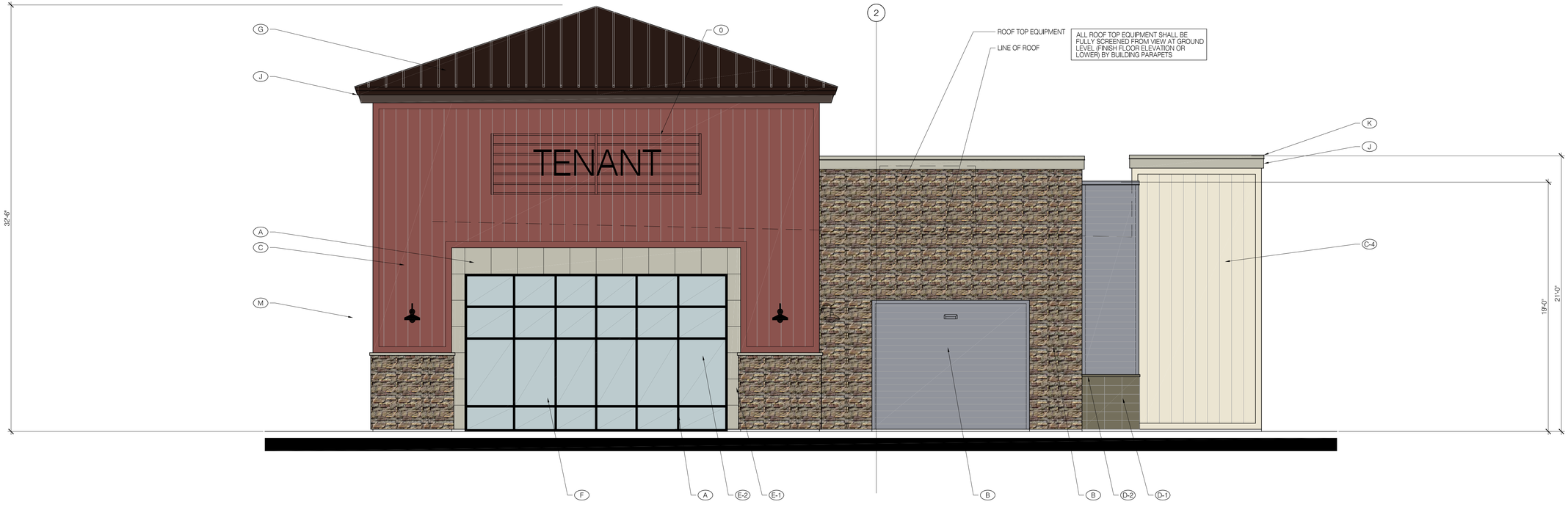
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SOUTH ELEVATION



EAST (WILDOMAR TRAIL) ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#MF-#L-40K-UL-BZ

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

EXTERIOR MATERIALS & FINISHES

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

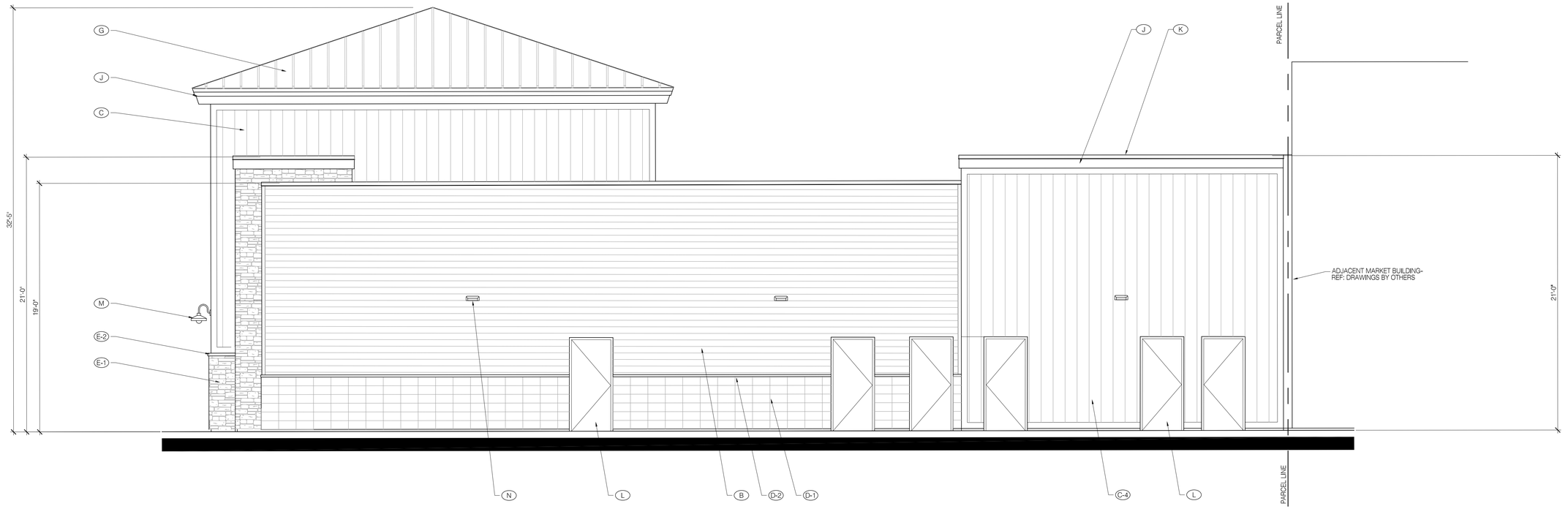
(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM



NORTH ELEVATION

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

EXTERIOR MATERIALS & FINISHES

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

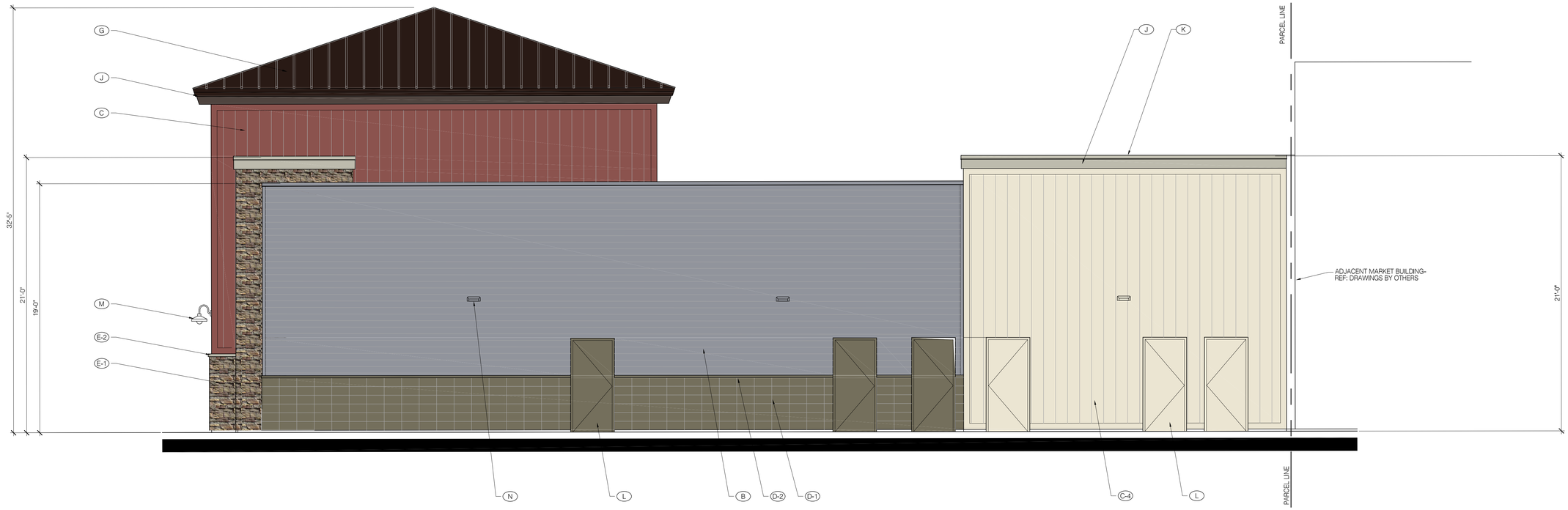
(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM



NORTH ELEVATION

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

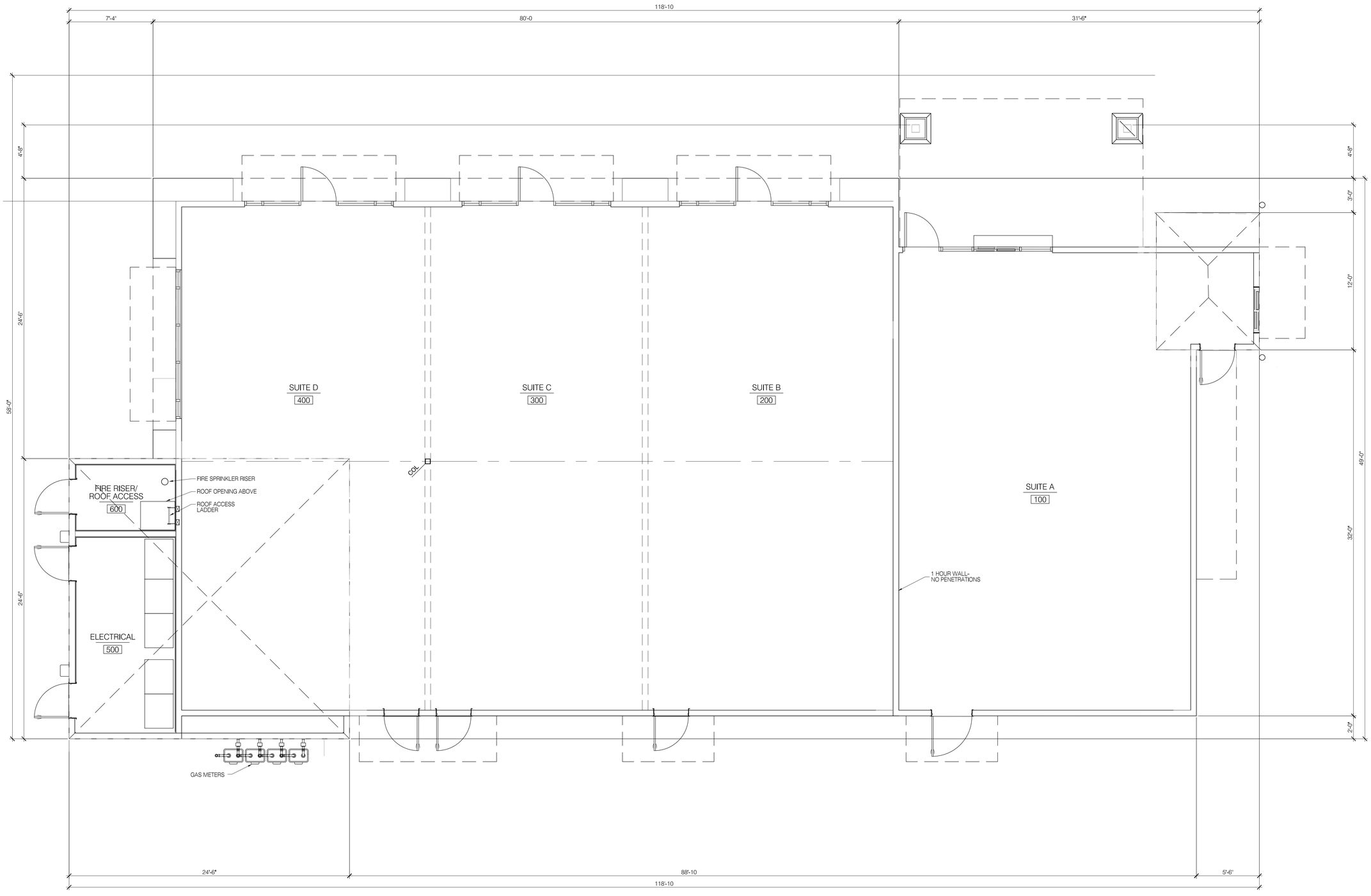
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



PROJECT DATA

2019 CBC

BUILDING AREA:	4,633 SF
TYPE OF CONSTRUCTION:	V-N (FIRE SPRINKLERED)
OCCUPANCY:	A-2/ M

PAD 1
FLOOR PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

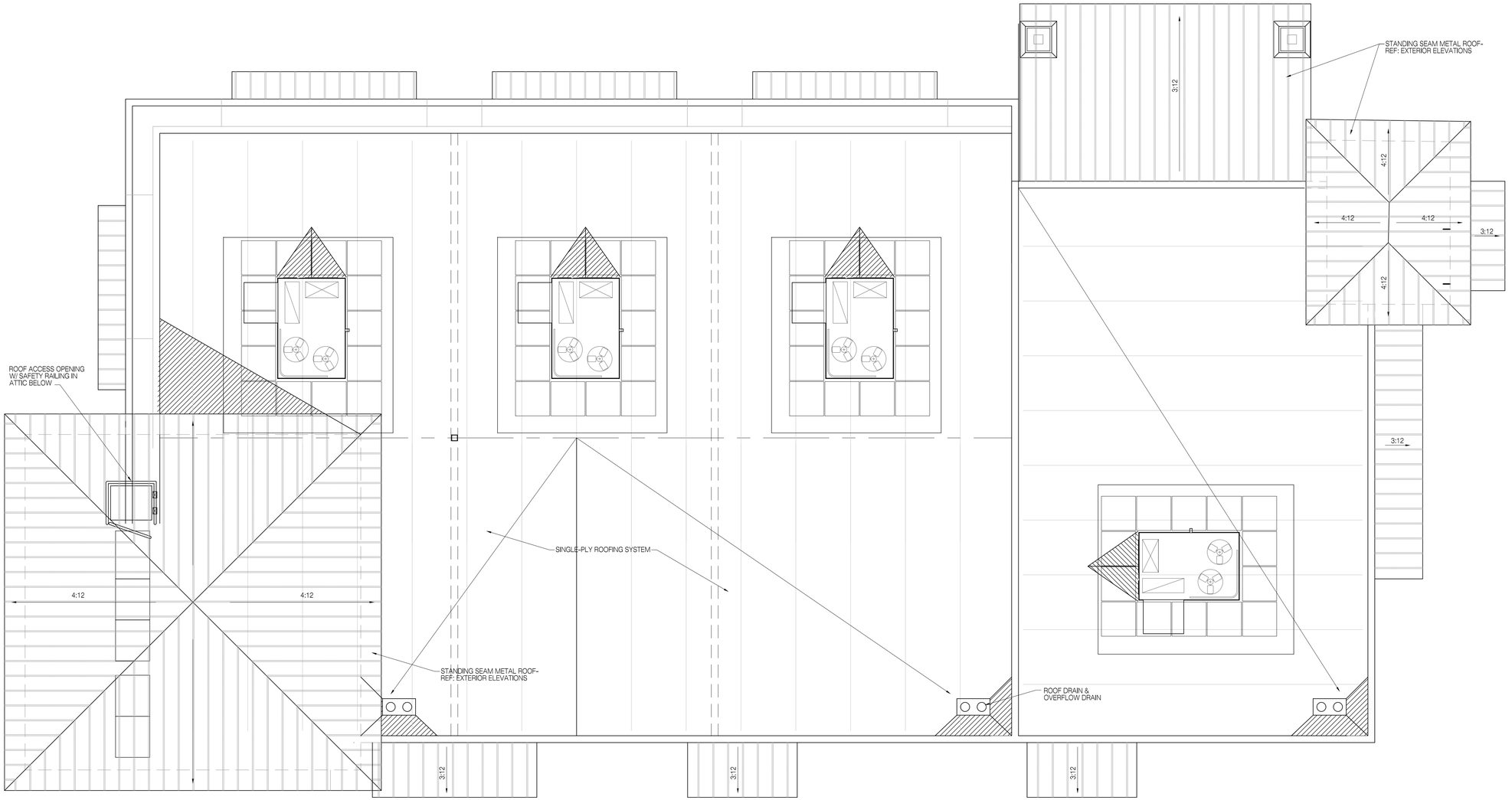
WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



PAD 1
ROOF PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

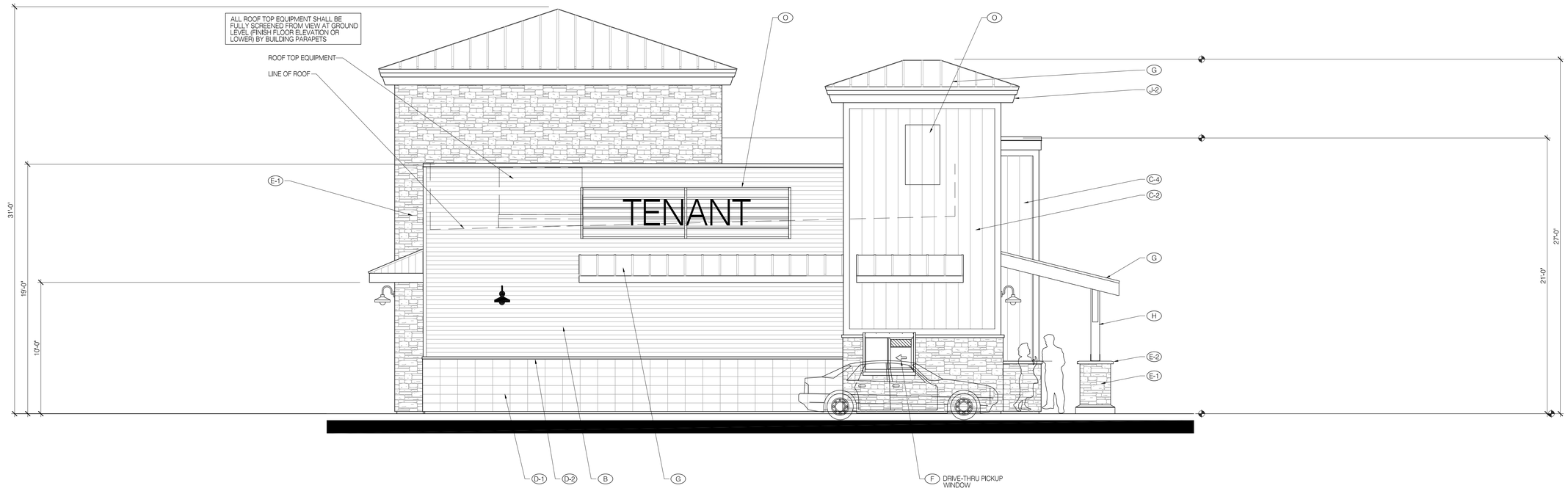
SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

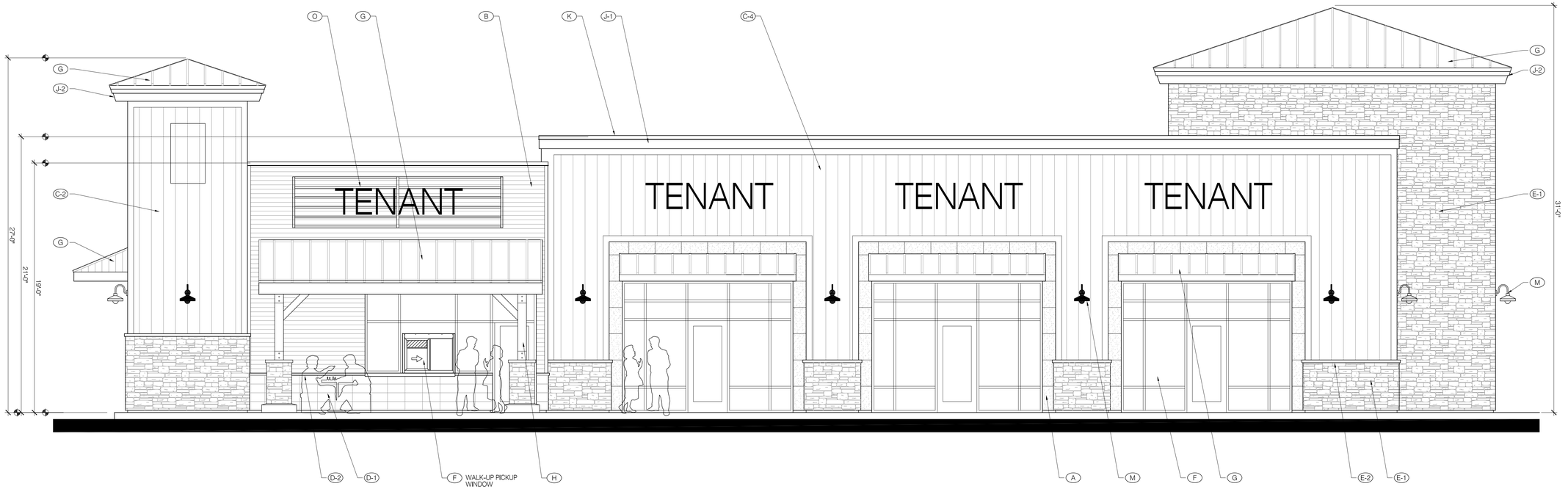
GK PIERCE ARCHITECTS

3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



SOUTH (CLINTON KEITH ROAD) ELEVATION



EAST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

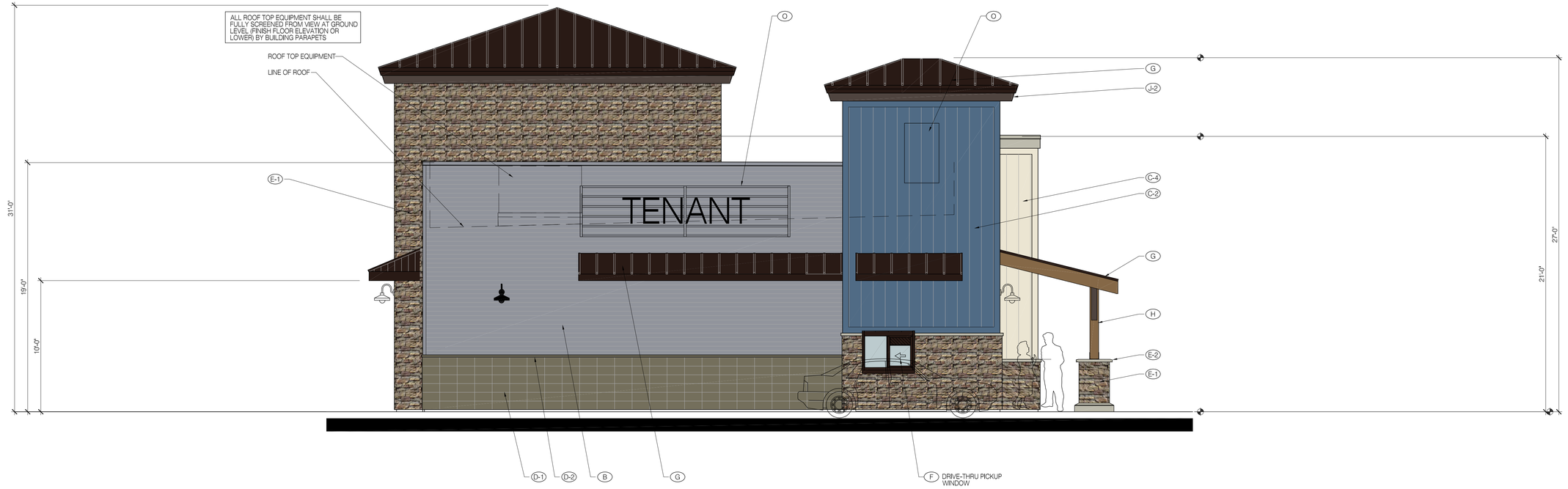
GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022



SOUTH (CLINTON KEITH ROAD) ELEVATION



EAST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP-
  PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

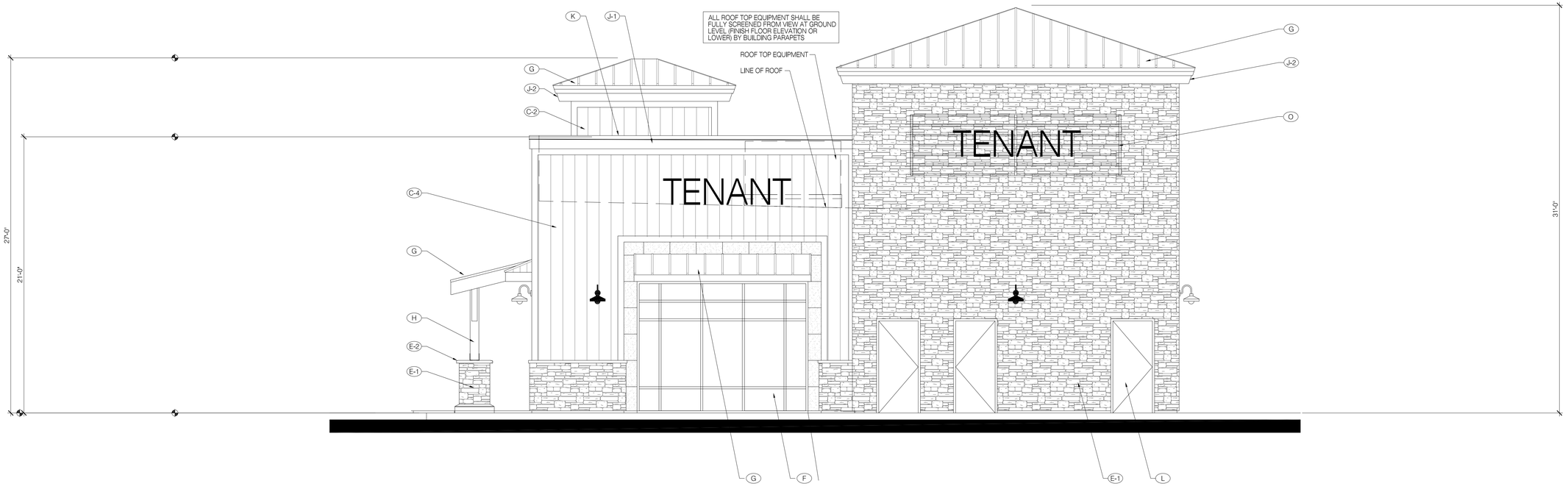
PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

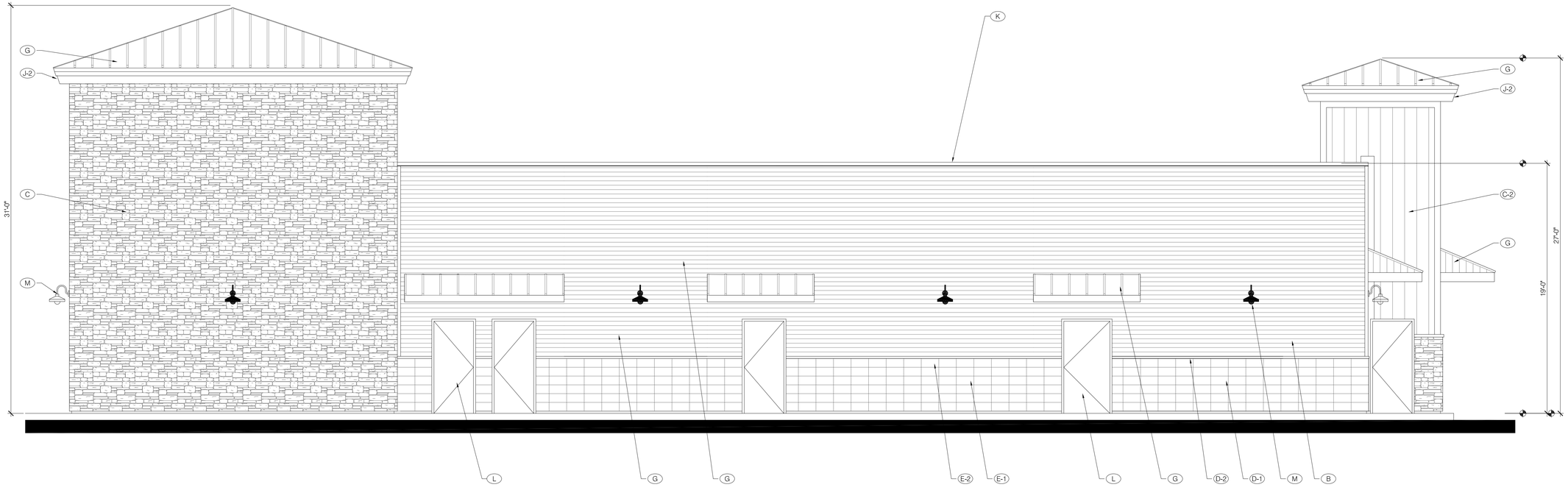
GKPA PROJECT #21108.01
23 JUNE 2022

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



NORTH ELEVATION



WEST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

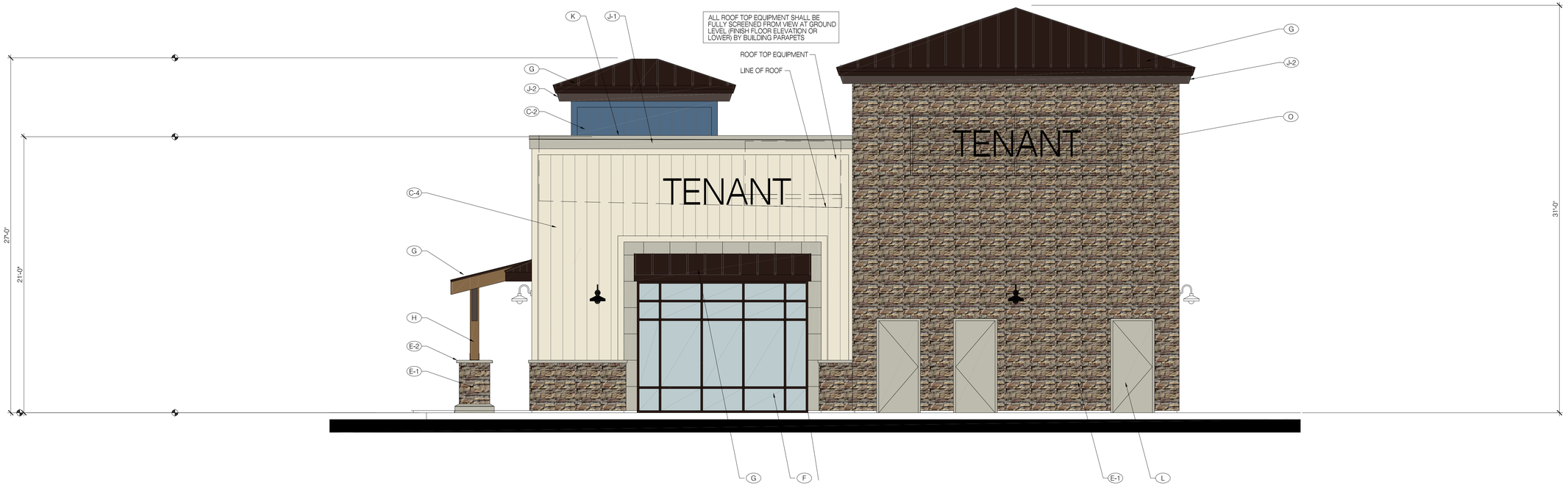
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

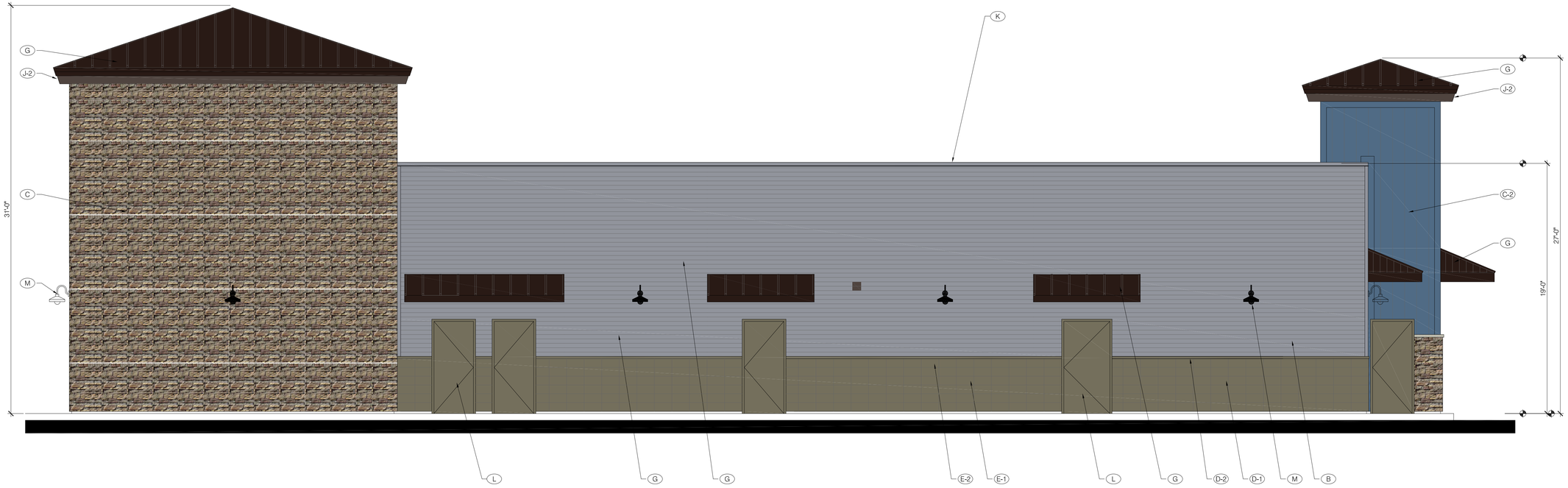
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



NORTH ELEVATION



WEST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

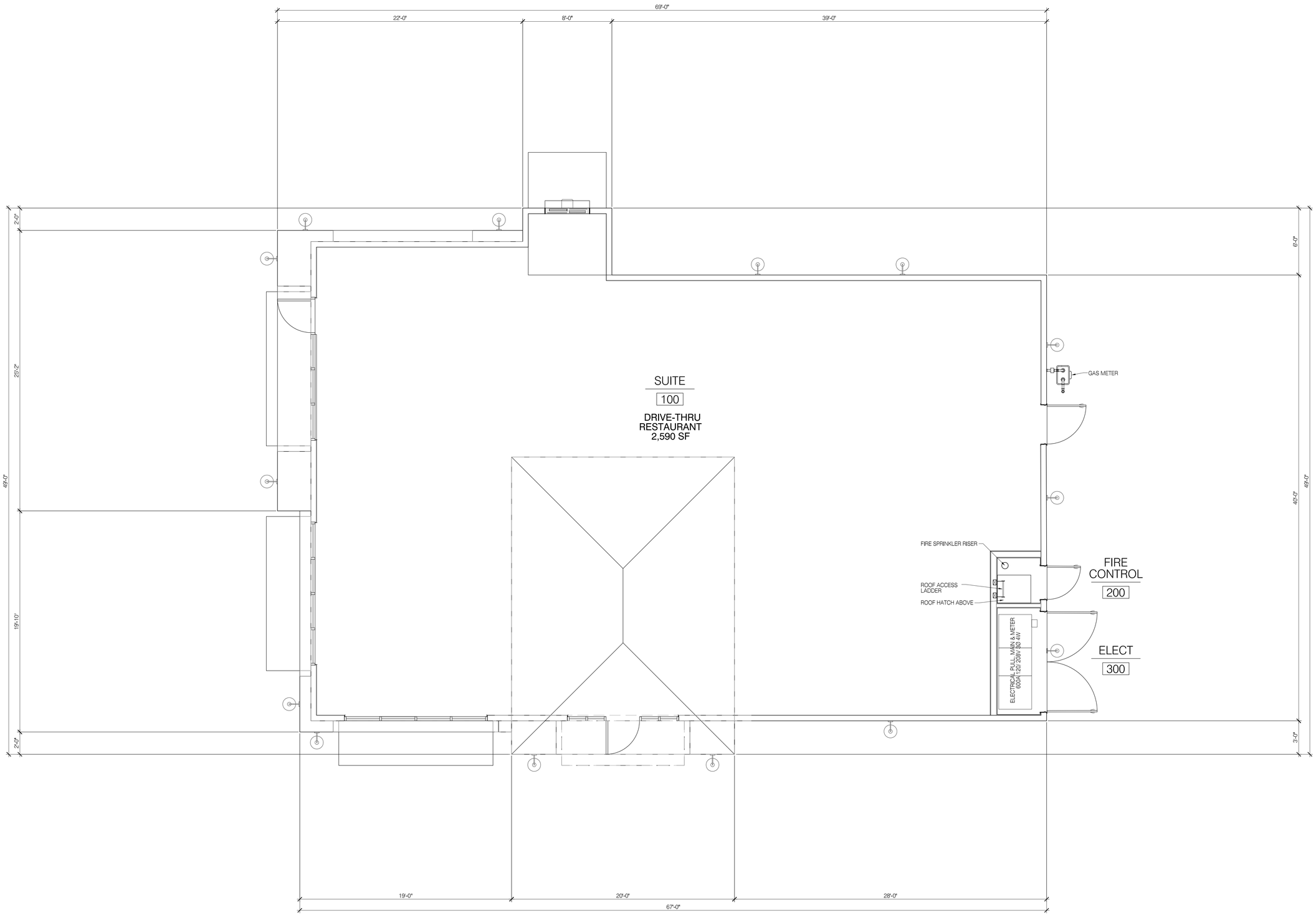
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



PROJECT DATA

2019 CBC

BUILDING AREA:	2,590 SF
TYPE OF CONSTRUCTION:	V-N (FIRE SPRINKLERED)
OCCUPANCY:	A-2

PAD 2
FLOOR PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

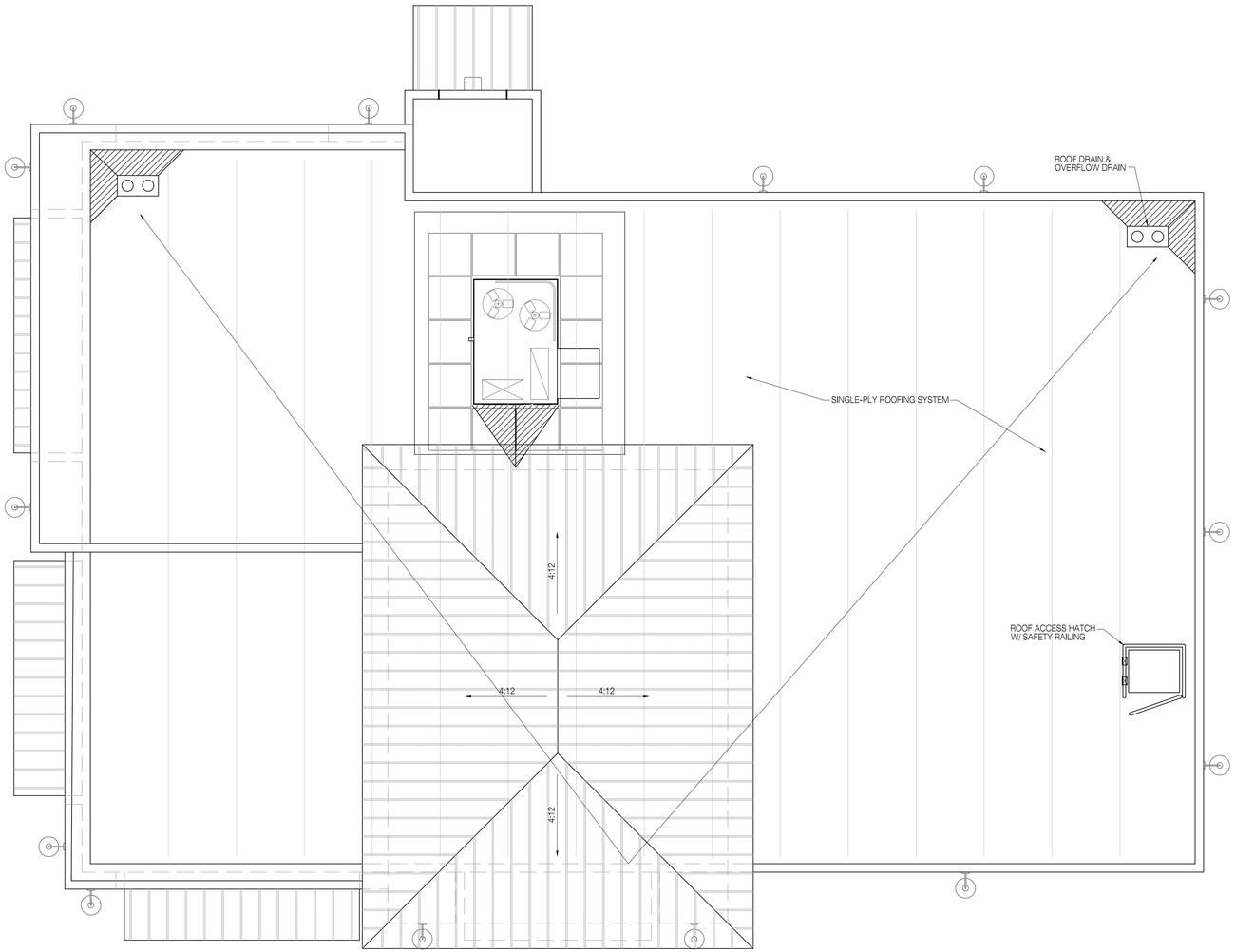
SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS

3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



PAD 2
ROOF PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

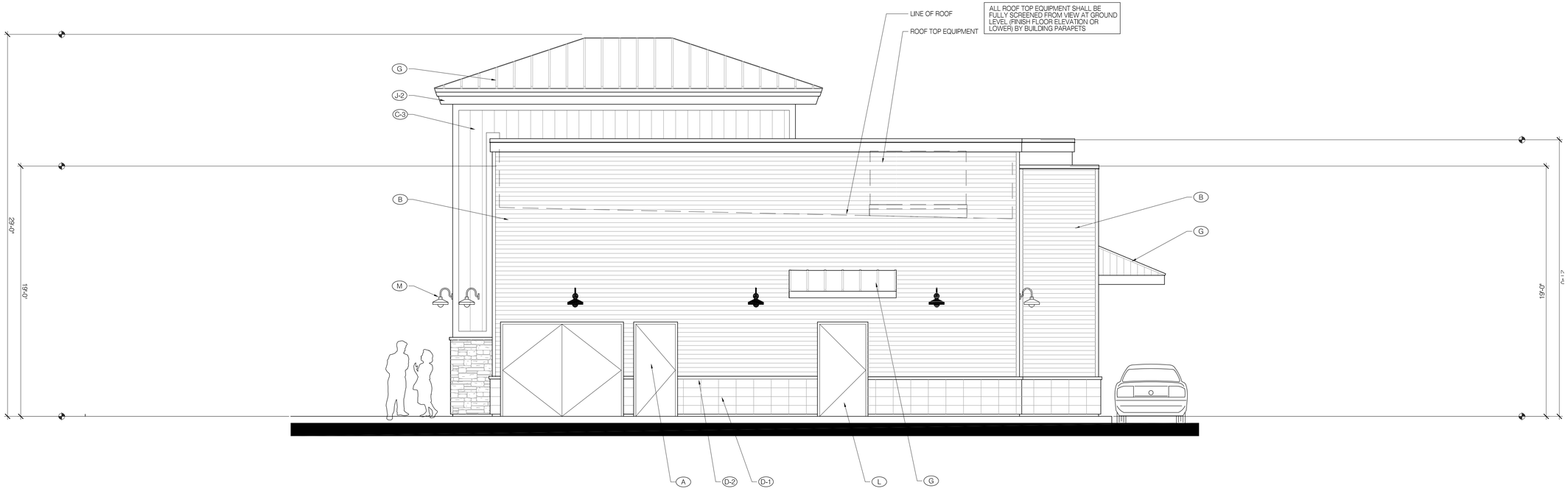
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



NORTHWEST ELEVATION



SOUTHWEST ELEVATION

EXTERIOR MATERIALS & FINISHES

2639

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

PAD 2
EXTERIOR ELEVATIONS

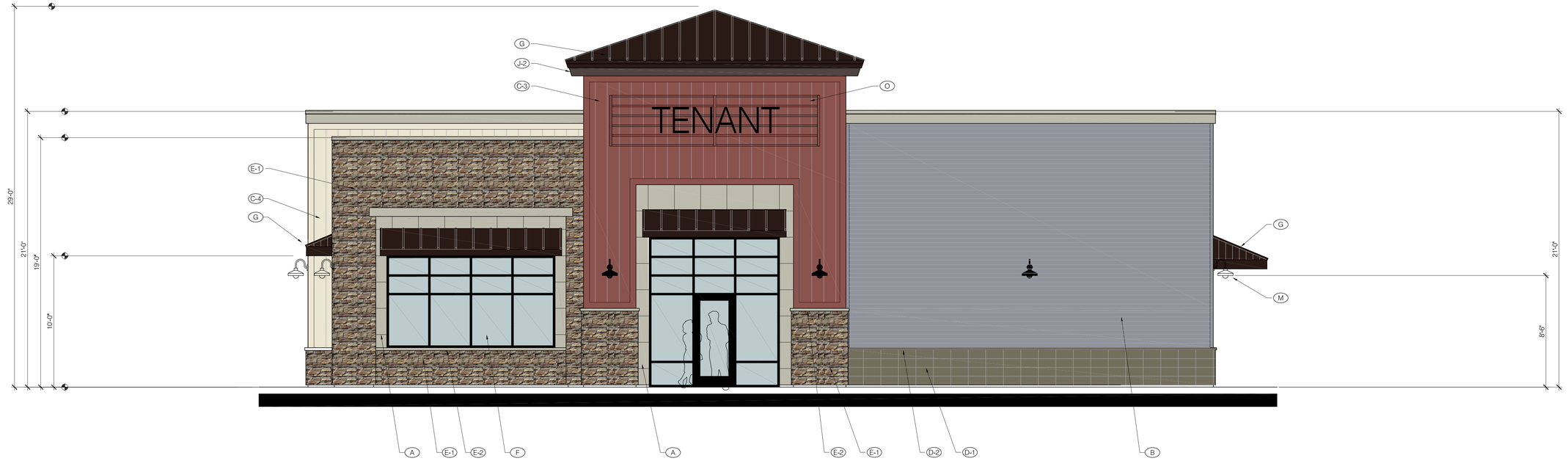
WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

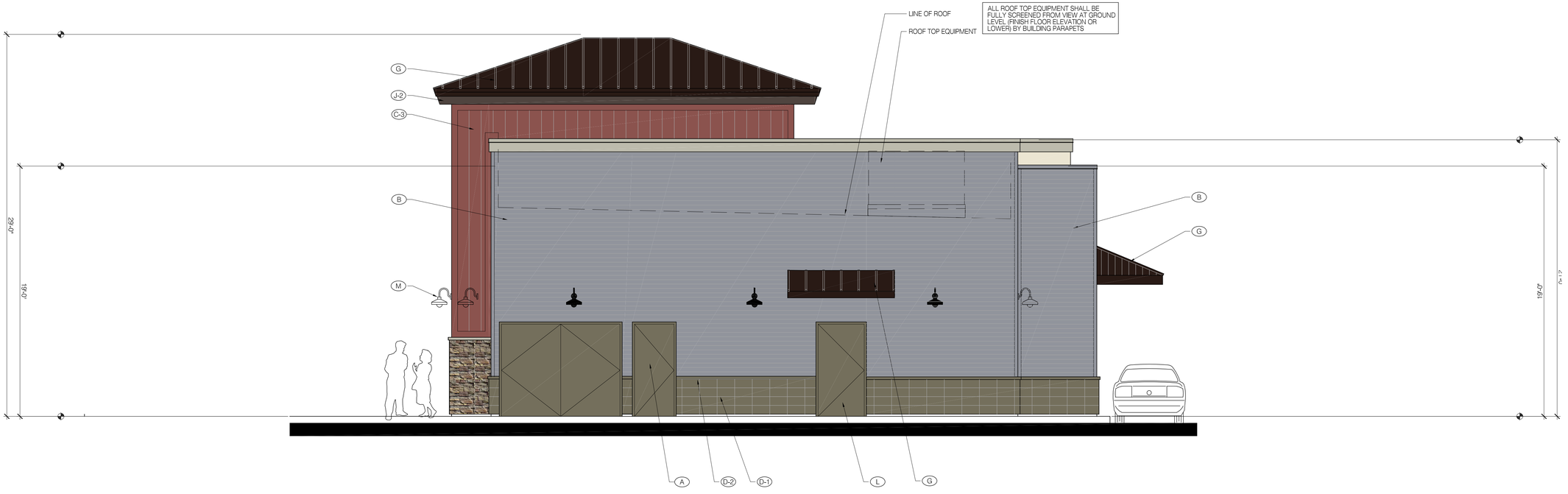
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



NORTHWEST ELEVATION



SOUTHWEST ELEVATION

EXTERIOR MATERIALS & FINISHES

2640

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

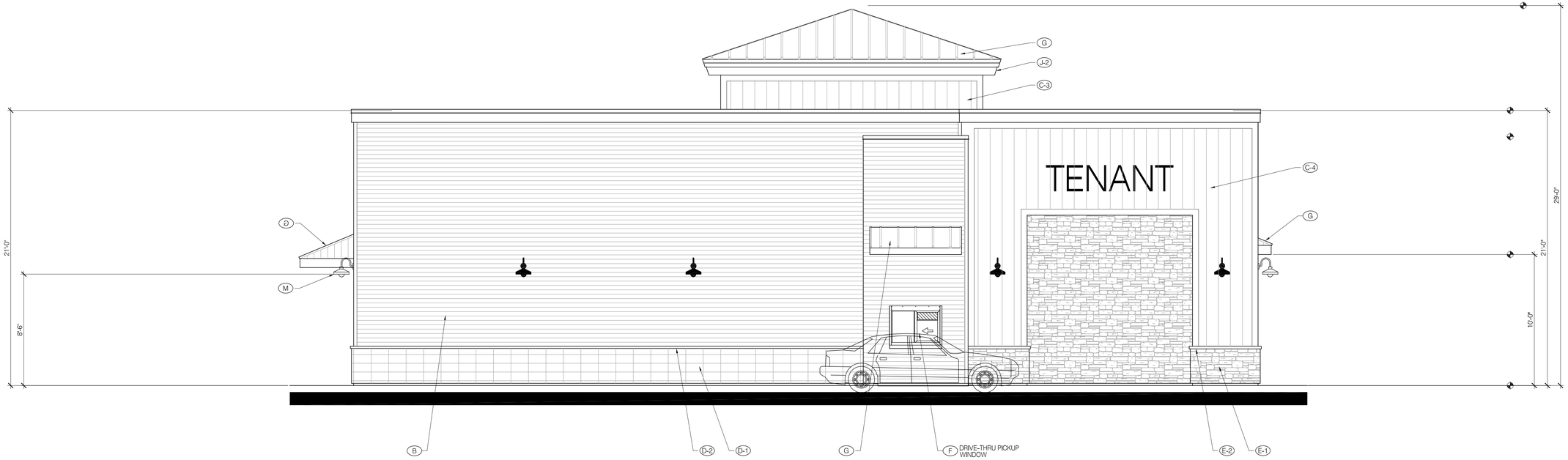
PAD 2
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

GKP GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



SOUTHEAST ELEVATION



NORTHEAST ELEVATION

EXTERIOR MATERIALS & FINISHES

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

PAD 2
EXTERIOR ELEVATIONS

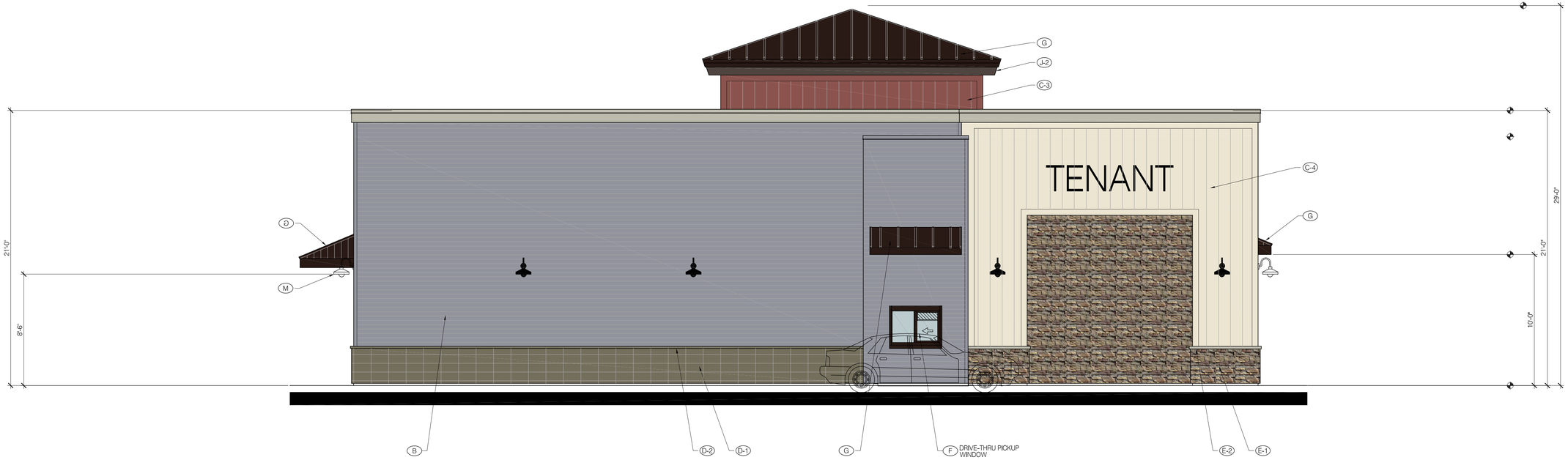
WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

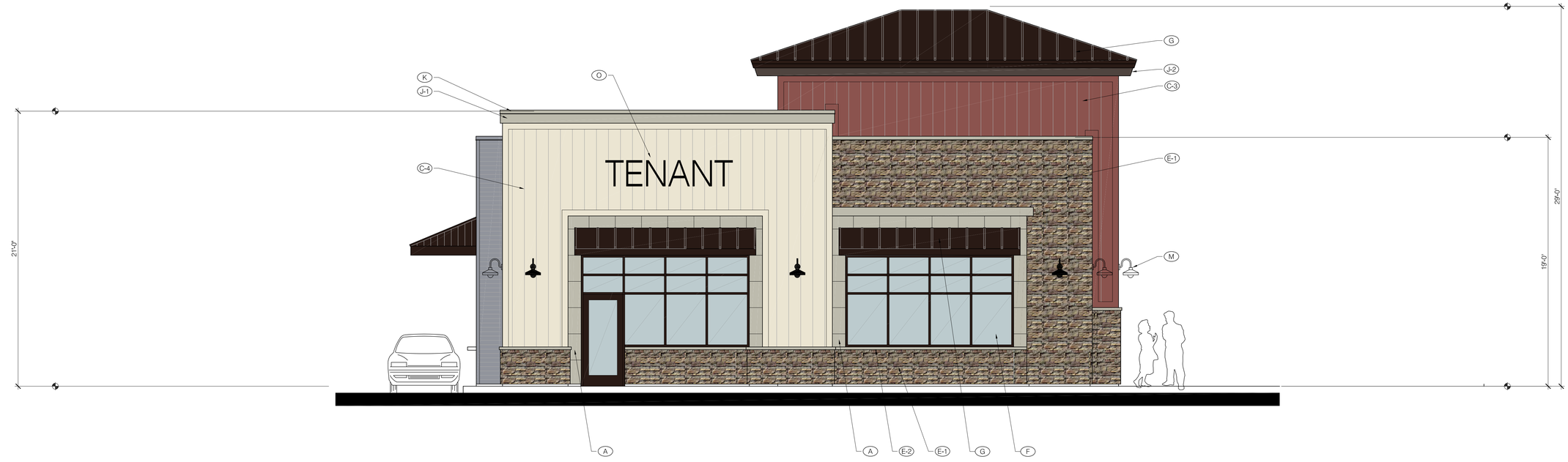
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SOUTHEAST ELEVATION



NORTHEAST ELEVATION

EXTERIOR MATERIALS & FINISHES

2642

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

PAD 2
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

PAINT-
PPG 1099-1 "ALWAYS ALMOND"



PAINT-
PPG 1032-2 "HURRICANE HAZE"



PAINT-
PPG 1028-6 "MOMENTUM"



PAINT-
PPG 1005-7 "DARK GRANITE"



STAINED WOOD-
FLOOD SEMI-TRANSPARENT STAIN
"707 "TOBACCO



PAINT-
PPG 1142-6 "JERICHO JADE"



PAINT-
SHERWIN WILLIAMS SW 6523
"DENIM"



PAINT-
SHERWIN WILLIAMS SW 0006
"TOILE RED"



MANUFACTURED STONE SILL-
CORONADO STONE
900 SERIES "GREY"



MANUFACTURED STONE VENEER-
CORONADO STONE
OLD WORLD LEDGE- "MONARCH"



METAL ROOFING-
BERRIDGE "AGED BRONZE"



CORRUGATED SIDING-
IMETCO LATITUDE HORIZONTAL
"WEATHERED GALVALUME"



PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH



DECORATIVE "SMOOT" TYPE LIGHT
FIXTURE (GOOSENECK MOUNT)
COLOR:

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

COMMERCIAL DISTRICT
COLORS & MATERIALS

WILDOMAR CROSSROADS
WILDOMAR, CA

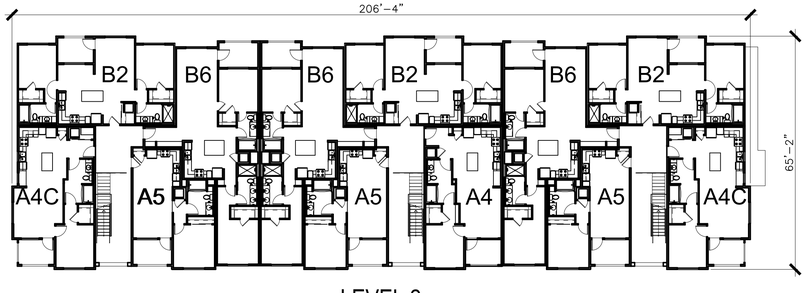
GKPA PROJECT #21108.01
23 JUNE 2022

BRR ARCHITECTURE, INC.
DALLAS, TX

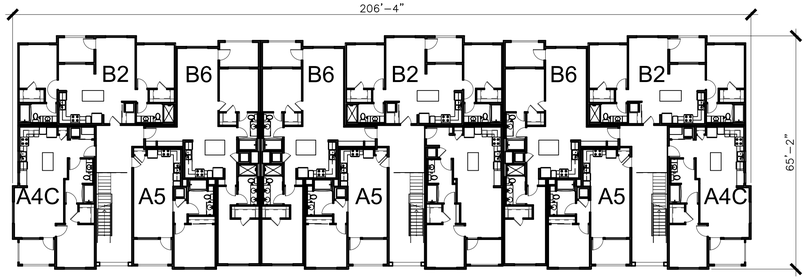
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

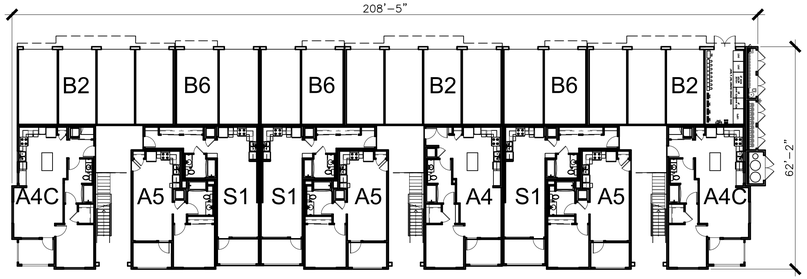
©GK PIERCE ARCHITECTS, INC. 2021



LEVEL 2



LEVEL 3



LEVEL 1

BUILDINGS 1 AND 2

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS - BLDGS. 1, 2

WILDOMAR CROSSROADS

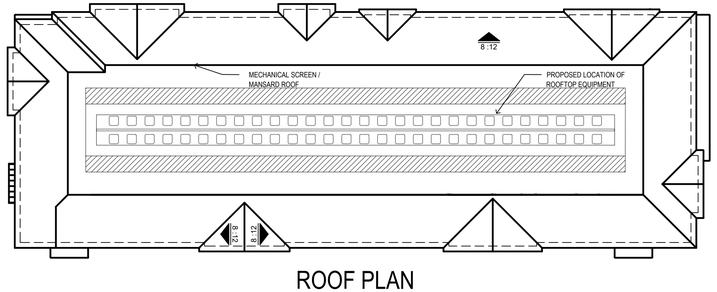
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

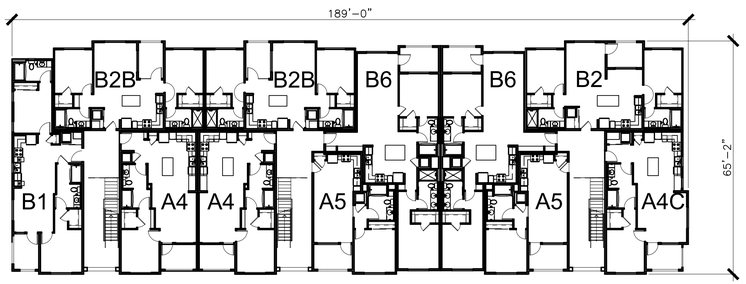
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

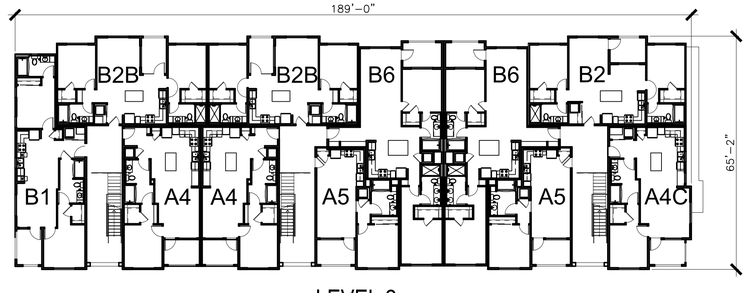
Architecture.
Design.
Relationships.



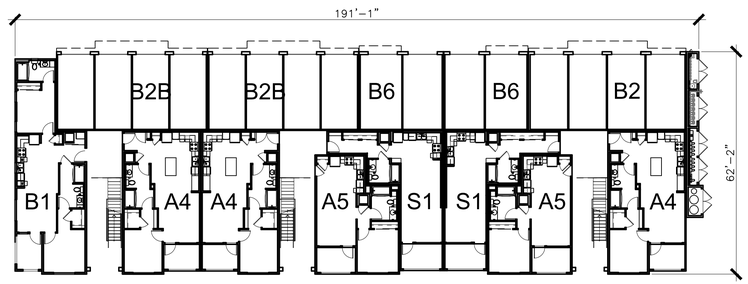
ROOF PLAN



LEVEL 3



LEVEL 2



LEVEL 1

BUILDING 3

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS AND ROOF PLAN - BLDG. 3

WILDOMAR CROSSROADS

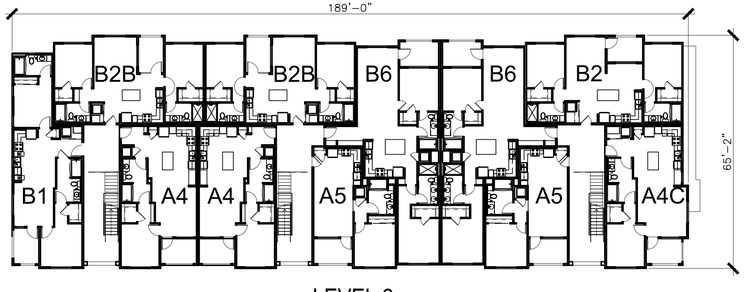
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

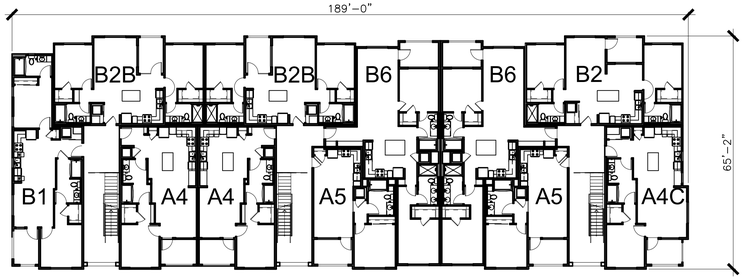
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

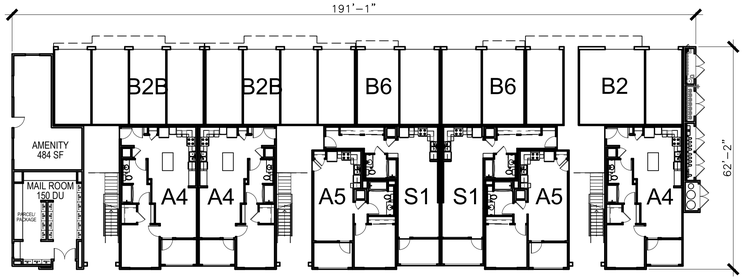
Architecture.
Design.
Relationships.



LEVEL 2



LEVEL 3



LEVEL 1

BUILDING 4

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS - BLDG. 4

WILDOMAR CROSSROADS

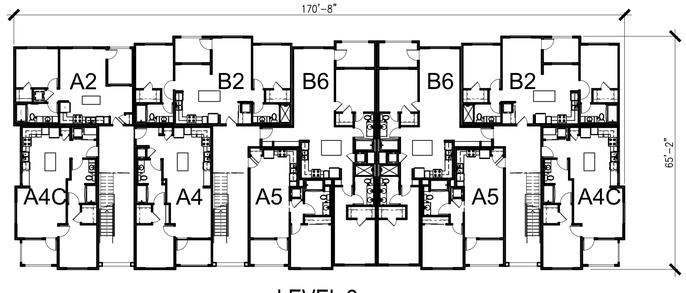
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

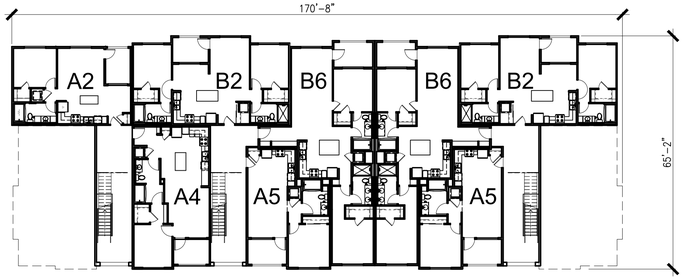
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

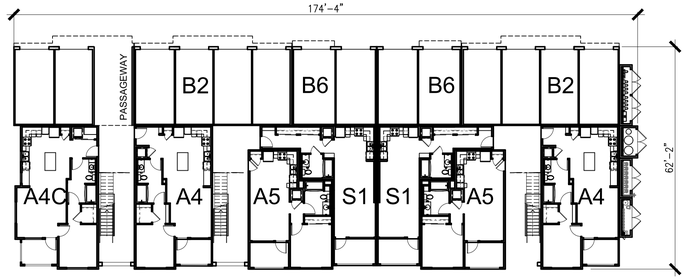
Architecture.
Design.
Relationships.



LEVEL 2



LEVEL 3



LEVEL 1

BUILDING 5

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS - BLDG. 5

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 SOUTH



BUILDING 1 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 SOUTH



BUILDING 1 NORTH

WILDOMAR CROSSROADS

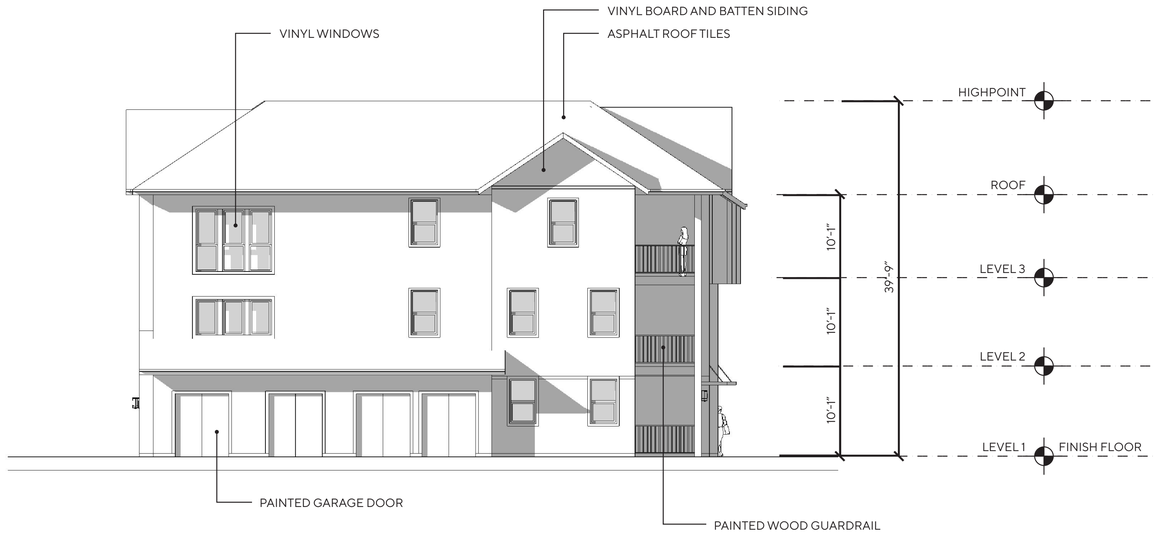
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

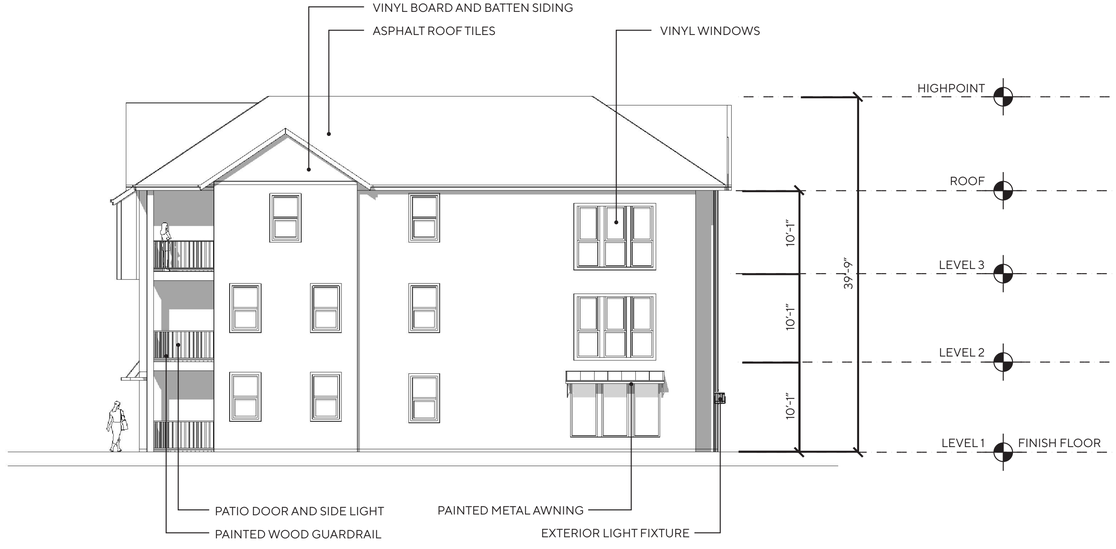
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.



BUILDING 1 EAST



BUILDING 1 WEST

WILDOMAR CROSSROADS

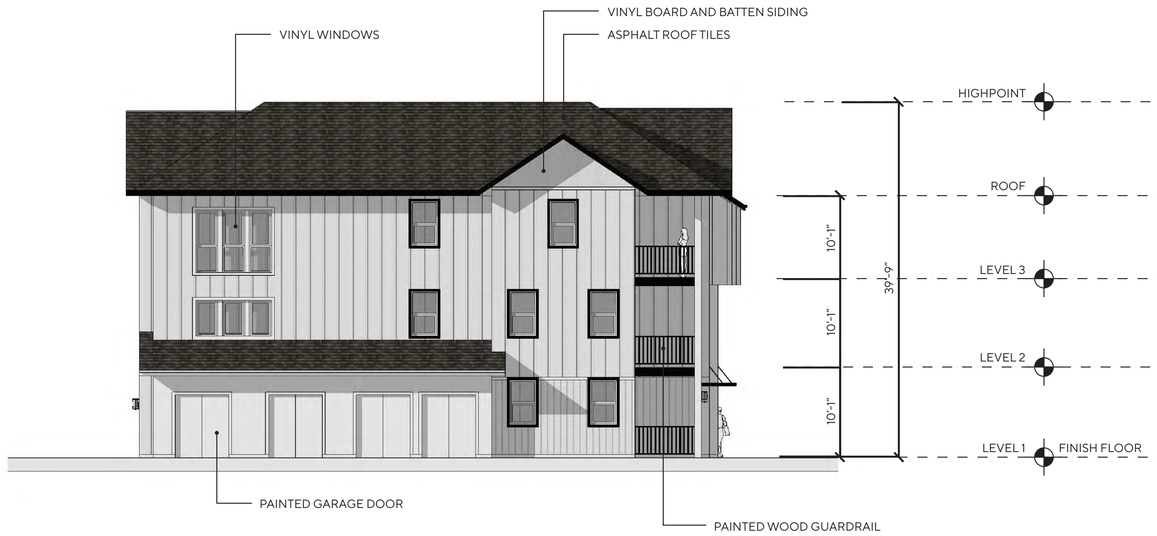
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

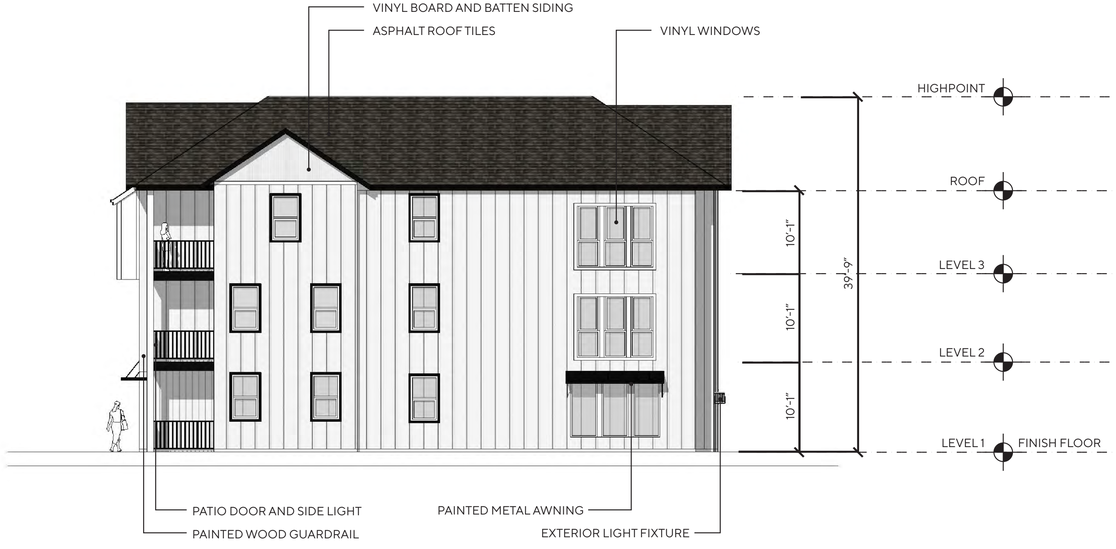
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 EAST



BUILDING 1 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 2 SOUTH



BUILDING 2 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 2 SOUTH



BUILDING 2 NORTH

WILDOMAR CROSSROADS

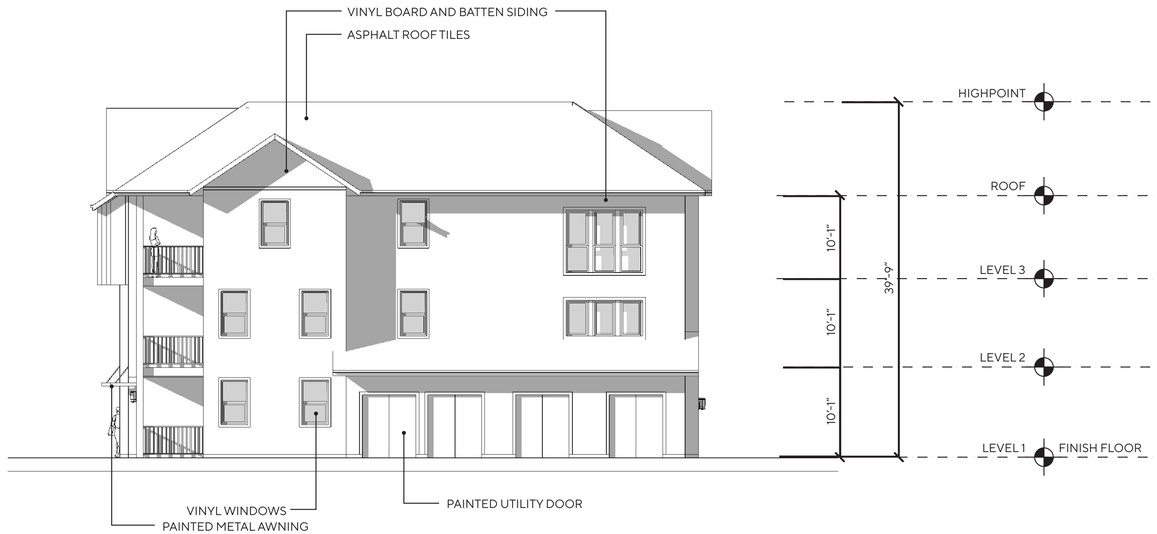
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 2 EAST



BUILDING 2 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 2 EAST



BUILDING 2 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 3 SOUTH



BUILDING 3 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.



BUILDING 3 SOUTH



BUILDING 3 NORTH

WILDOMAR CROSSROADS

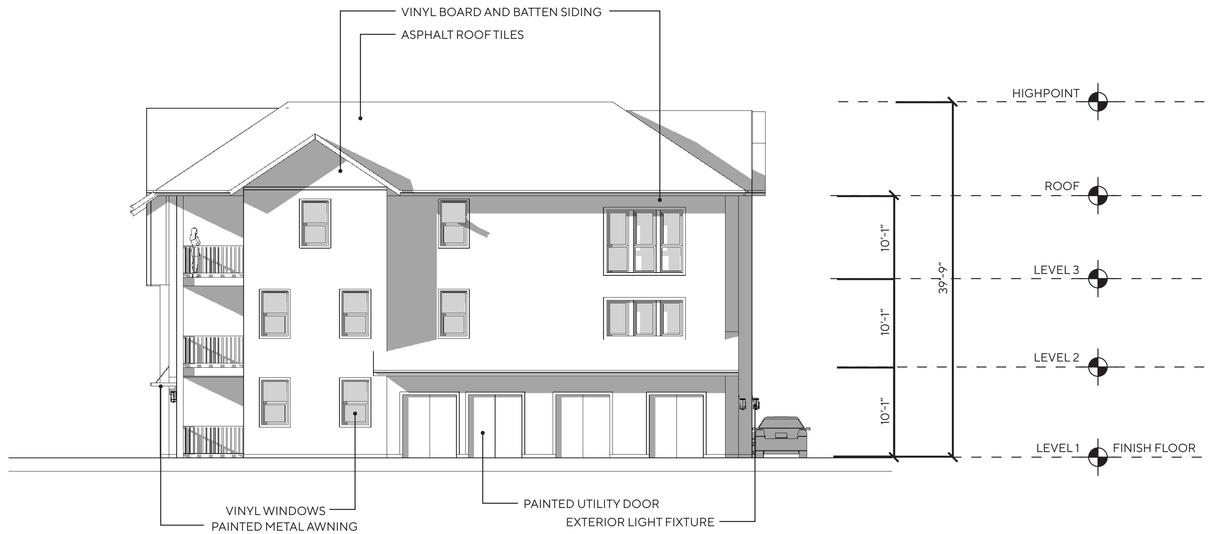
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 3 EAST



BUILDING 3 WEST

WILDOMAR CROSSROADS

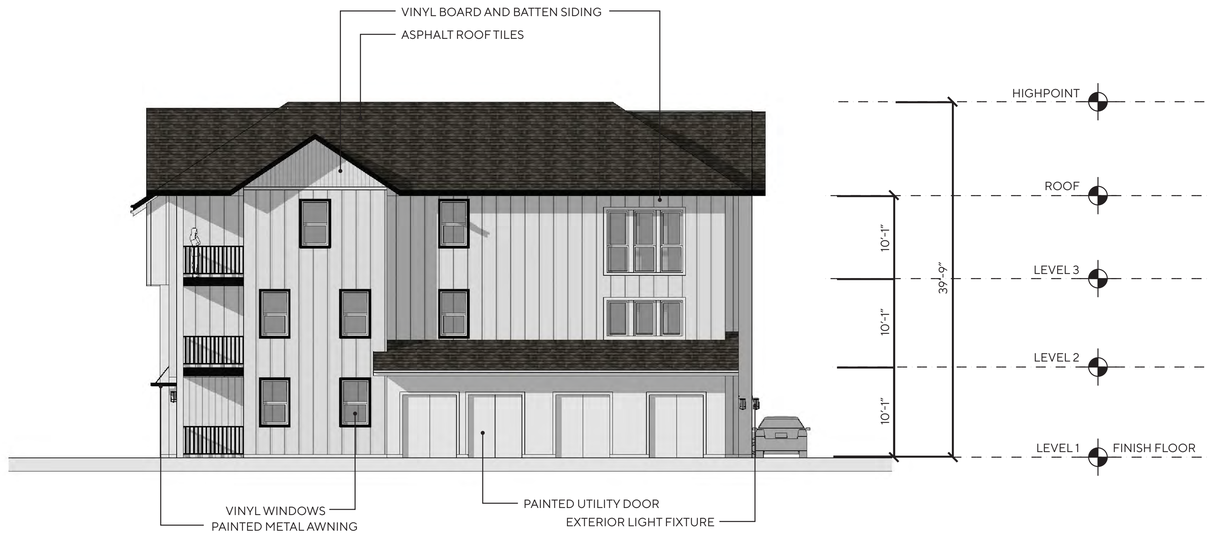
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 3 EAST



BUILDING 3 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 SOUTH



BUILDING 4 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 SOUTH



BUILDING 4 NORTH

WILDOMAR CROSSROADS

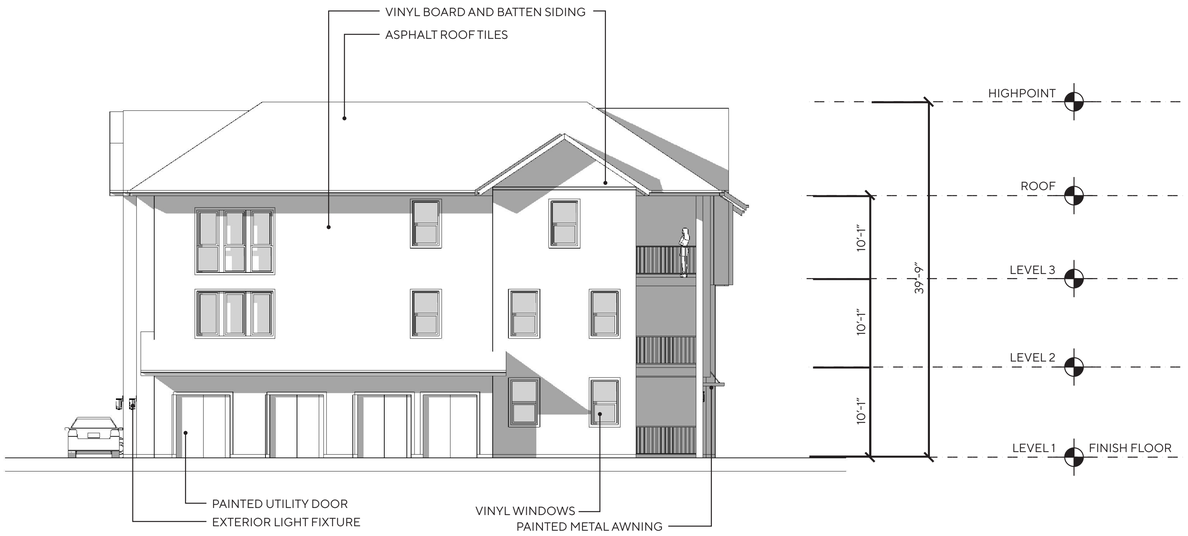
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

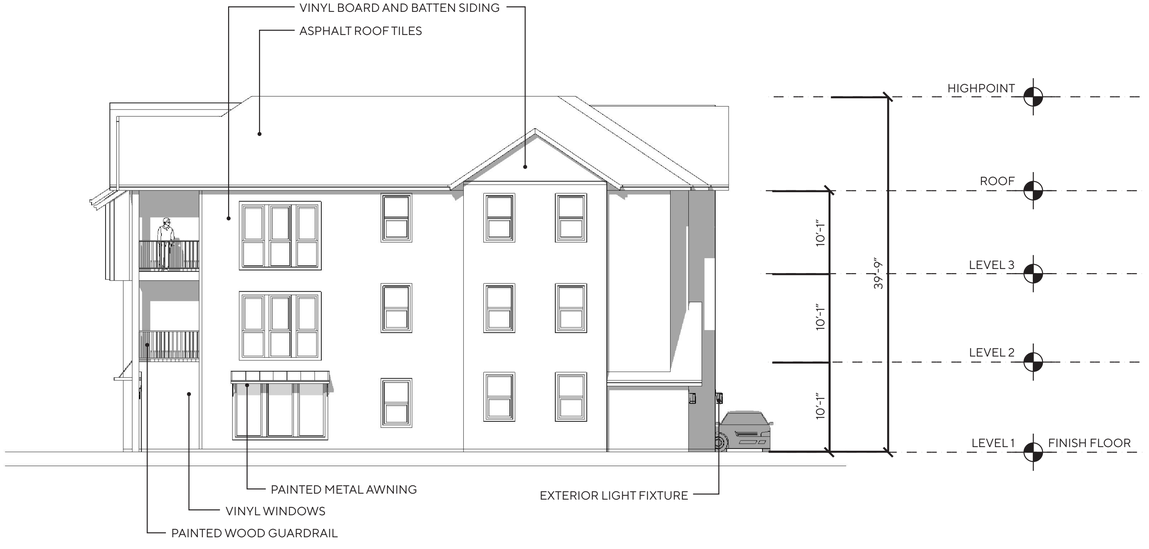
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 EAST



BUILDING 4 WEST

WILDOMAR CROSSROADS

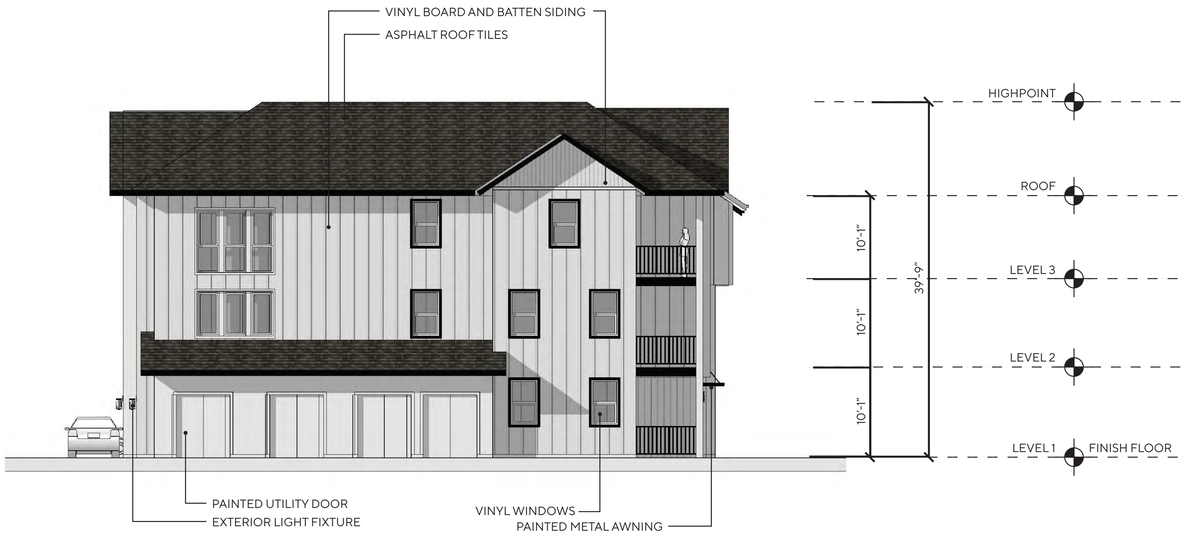
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 EAST



BUILDING 4 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 SOUTH

BUILDING 5 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 SOUTH



BUILDING 5 NORTH

WILDOMAR CROSSROADS

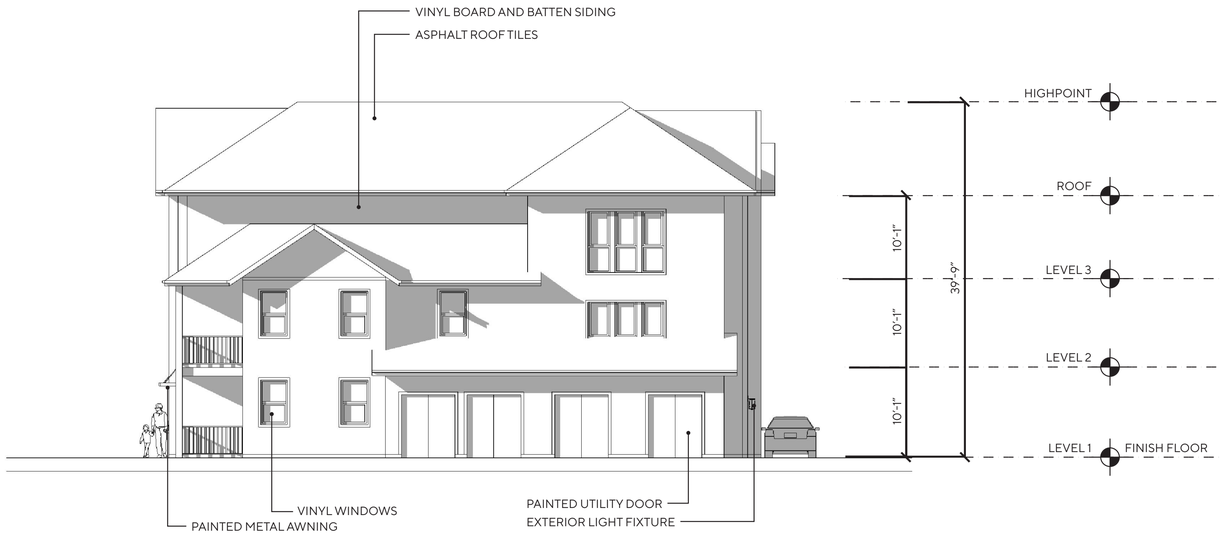
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

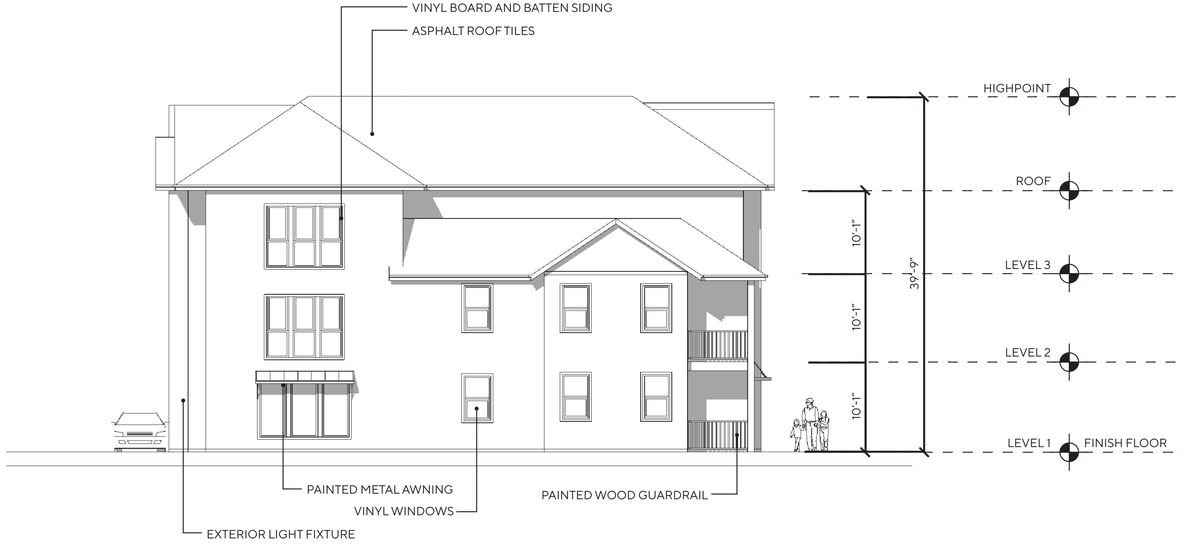
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 EAST



BUILDING 5 WEST

WILDOMAR CROSSROADS

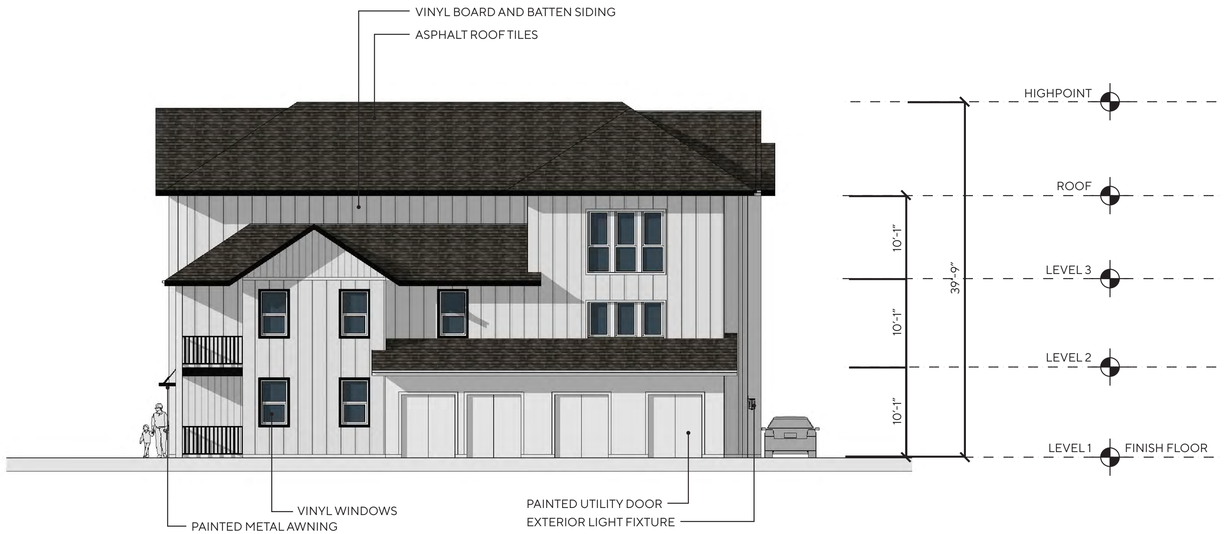
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

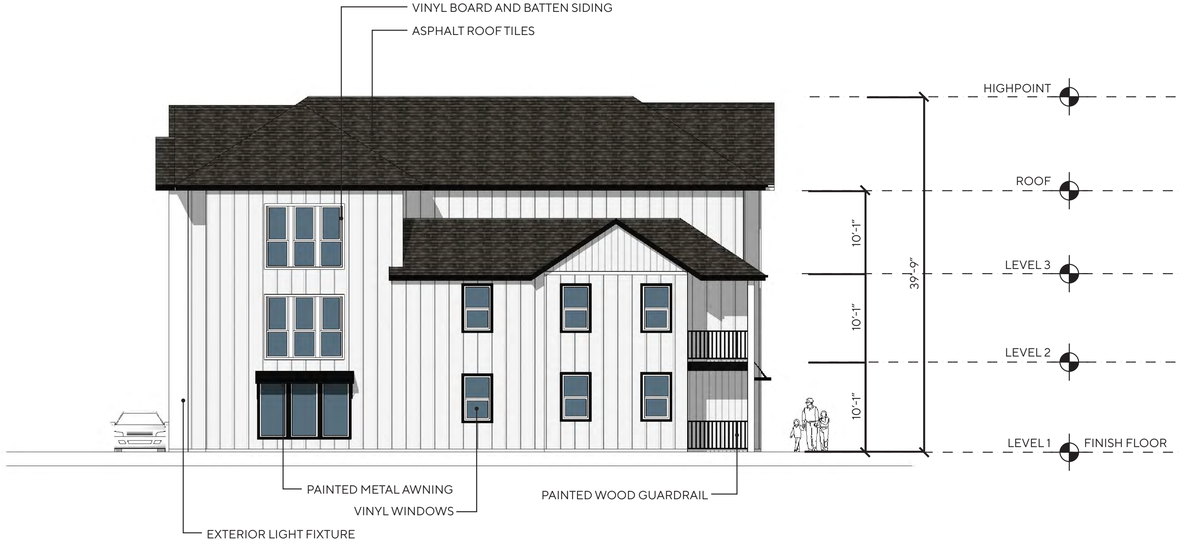
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 EAST



BUILDING 5 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



CONCEPTUAL PERSPECTIVE

WILDOMAR CROSSROADS

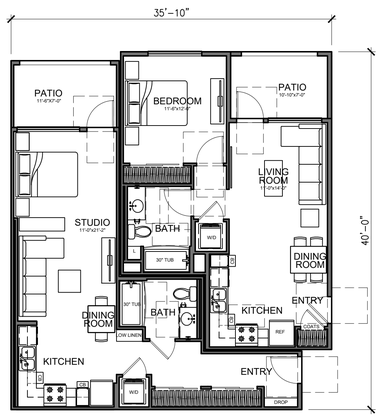
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

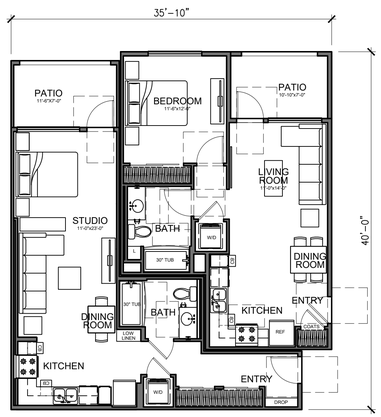
AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



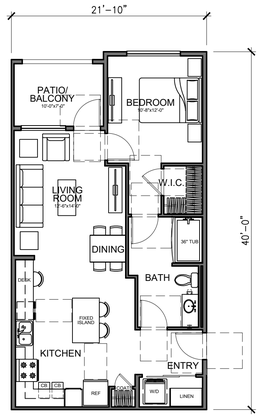
UNIT S1: STUDIO
LIVABLE AREA: 594 SQ. FT.
PATIO AREA: 81 SQ. FT.
QUANTITY: 12

UNIT A5: 1BR / 1BA
LIVABLE AREA: 622 SQ. FT.
PATIO/ BALCONY AREA: 76 SQ. FT.
QUANTITY: 36

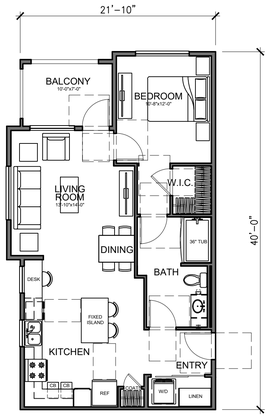


UNIT S1-ALT: STUDIO
LIVABLE AREA: 594 SQ. FT.
PATIO AREA: 81 SQ. FT.
QUANTITY: 12

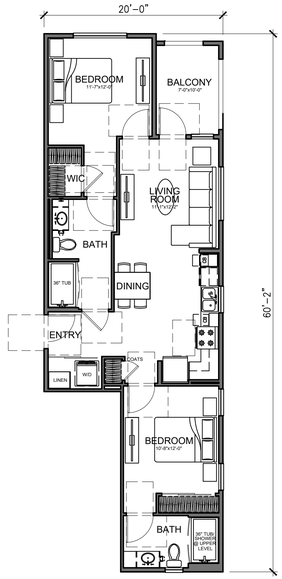
UNIT A5: 1BR / 1BA
LIVABLE AREA: 622 SQ. FT.
PATIO/ BALCONY AREA: 76 SQ. FT.
QUANTITY: 36



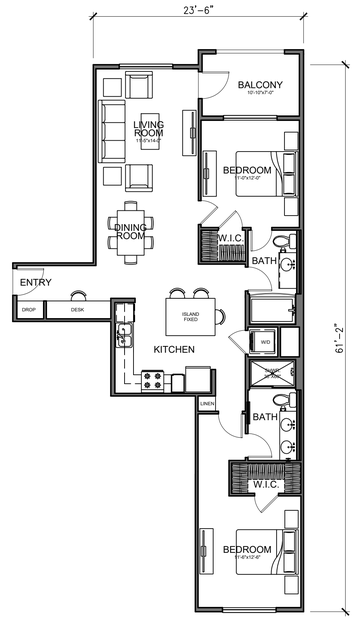
UNIT A4: 1BR / 1BA
LIVABLE AREA: 788 SQ. FT.
PATIO/ BALCONY AREA: 70 SQ. FT.
QUANTITY: 24



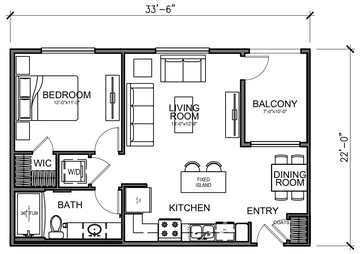
UNIT A4C: 1BR / 1BA
LIVABLE AREA: 810 SQ. FT.
PATIO/ BALCONY AREA: 70 SQ. FT.
QUANTITY: 19



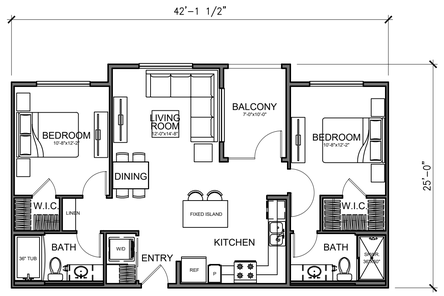
UNIT B1: 2BR / 2BA
LIVABLE AREA: 946 SQ. FT.
PATIO/ BALCONY AREA: 70 SQ. FT.
QUANTITY: 5



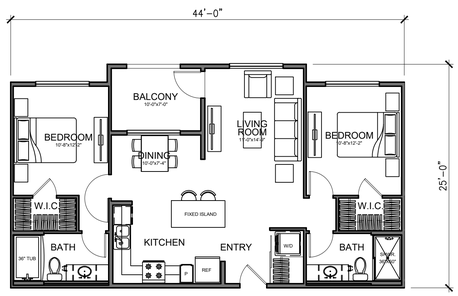
UNIT B6: 2BR / 2BA
LIVABLE AREA: 1139 SQ. FT.
BALCONY AREA: 76 SQ. FT.
QUANTITY: 24



UNIT A2: 1BR / 1BA
LIVABLE AREA: 661 SQ. FT.
BALCONY AREA: 70 SQ. FT.
QUANTITY: 2



UNIT B2B: 2BR / 2BA
LIVABLE AREA: 936 SQ. FT.
BALCONY AREA: 70 SQ. FT.
QUANTITY: 8



UNIT B2: 2BR / 2BA
LIVABLE AREA: 981 SQ. FT.
BALCONY AREA: 70 SQ. FT.
QUANTITY: 20

1/8"=1'-0" 0 4' 8' 16' 24'

CONCEPTUAL UNIT PLANS

WILDOMAR CROSSROADS

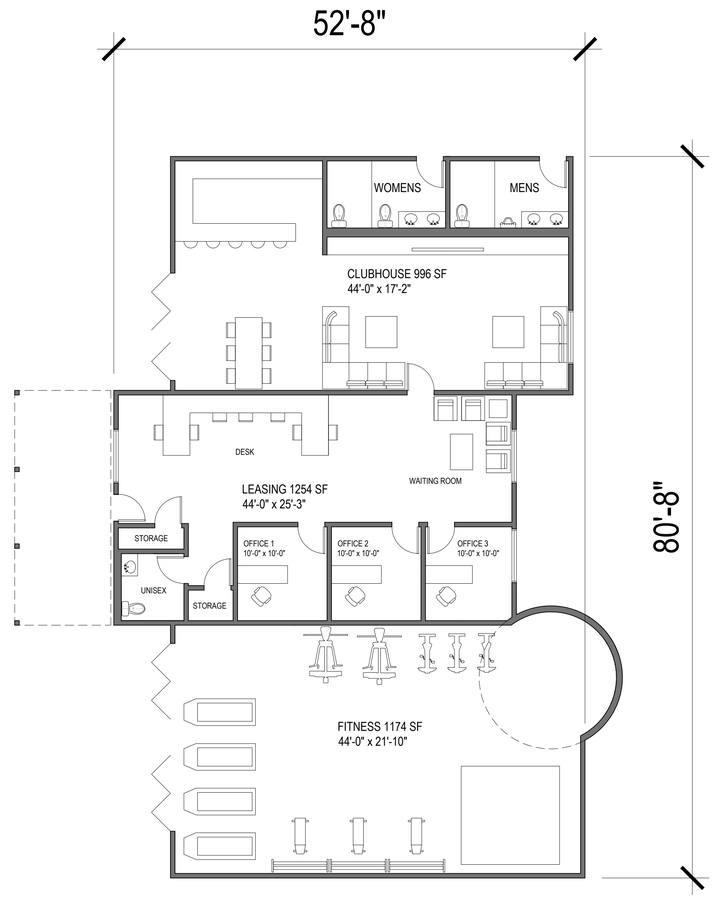
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY BUILDING
AREA: 3728 SQ. FT.

FLOOR PLAN

1/8"=1'-0" 0 4' 8' 16' 24'

CONCEPTUAL AMENITY PLAN

WILDOMAR CROSSROADS

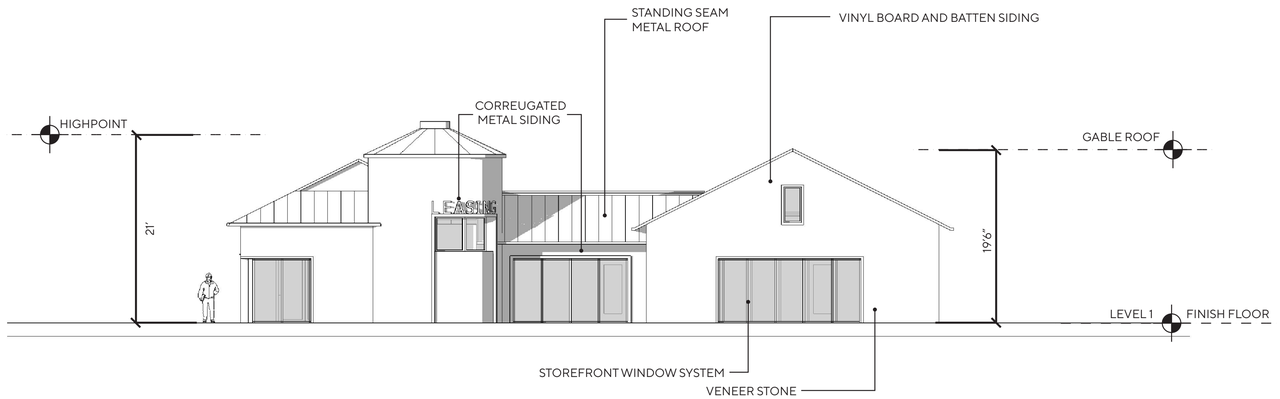
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

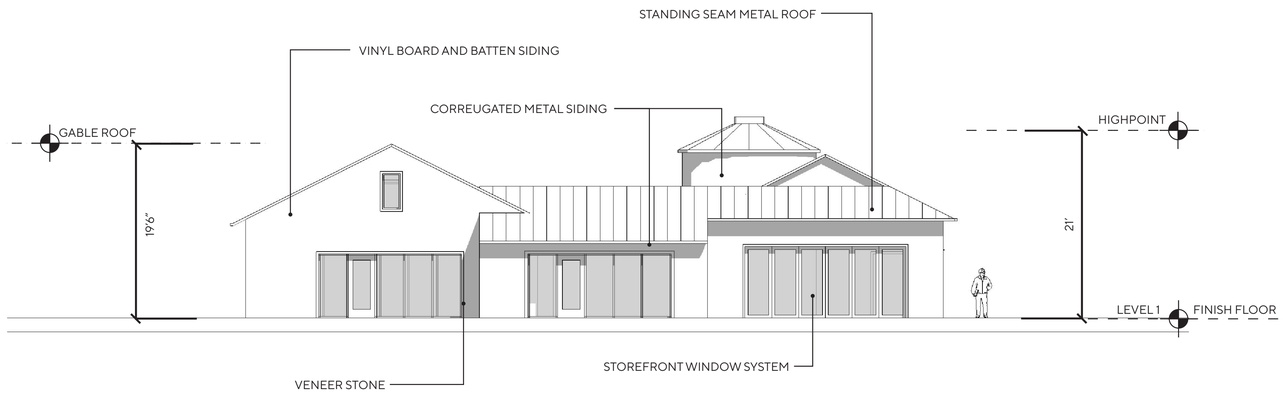
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY SOUTH



AMENTIY NORTH

WILDOMAR CROSSROADS

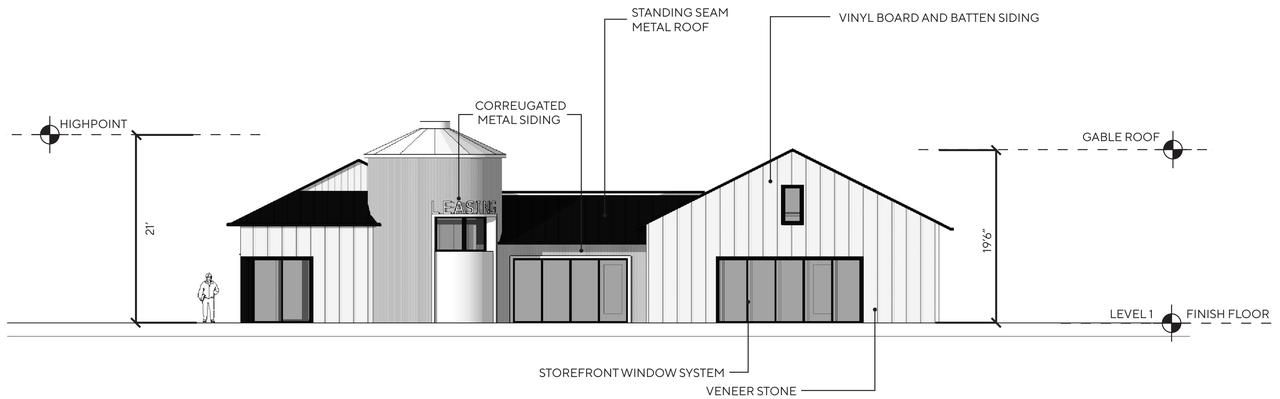
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

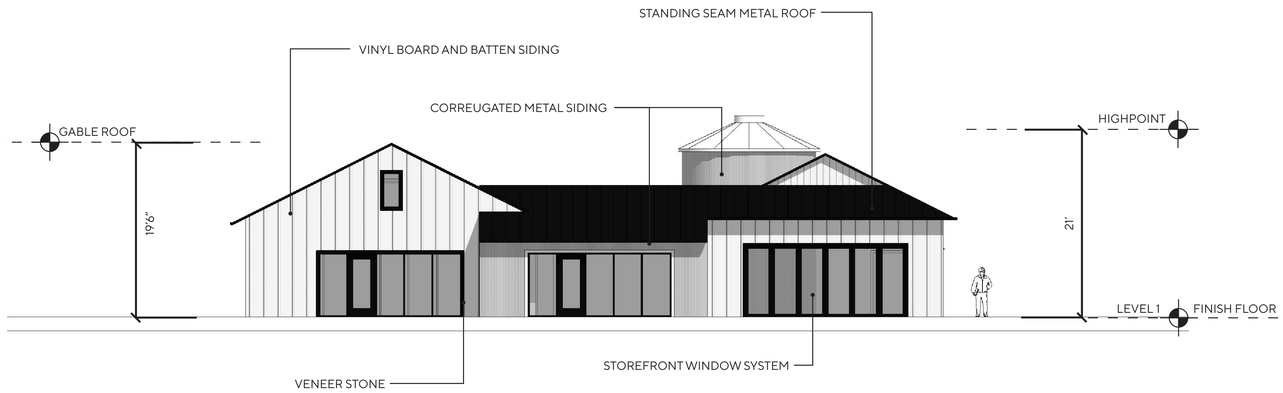
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY SOUTH



AMENTIY NORTH

WILDOMAR CROSSROADS

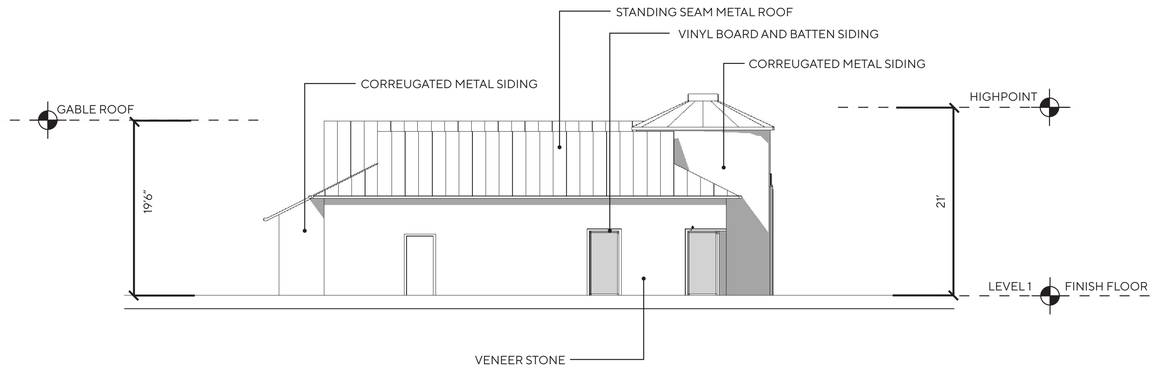
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

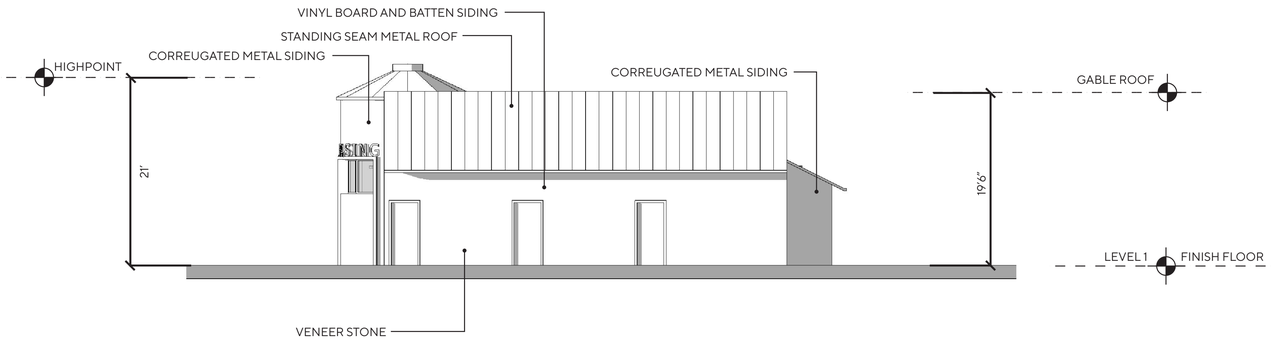
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY EAST



AMENTIY WEST

WILDOMAR CROSSROADS

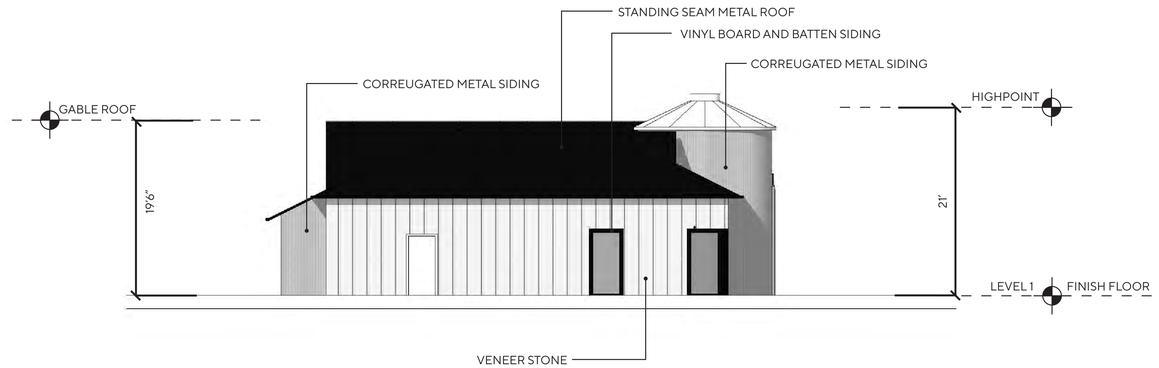
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

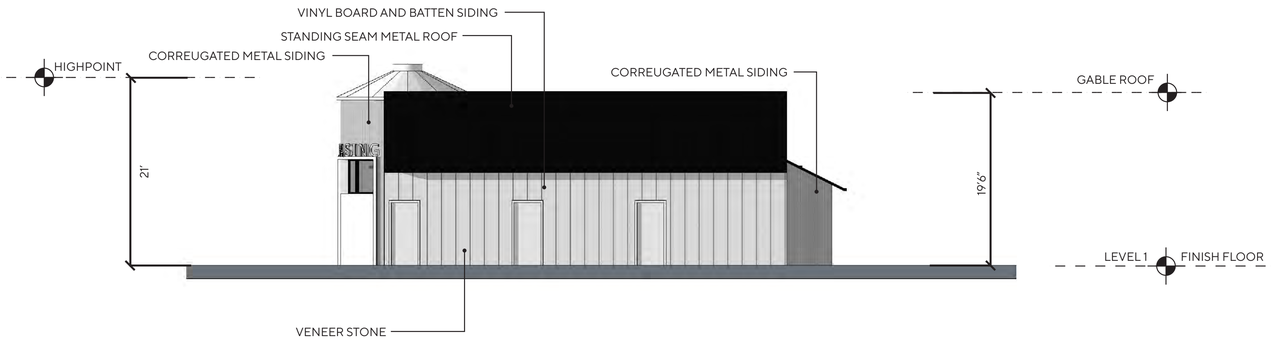
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY EAST



AMENTIY WEST

WILDOMAR CROSSROADS

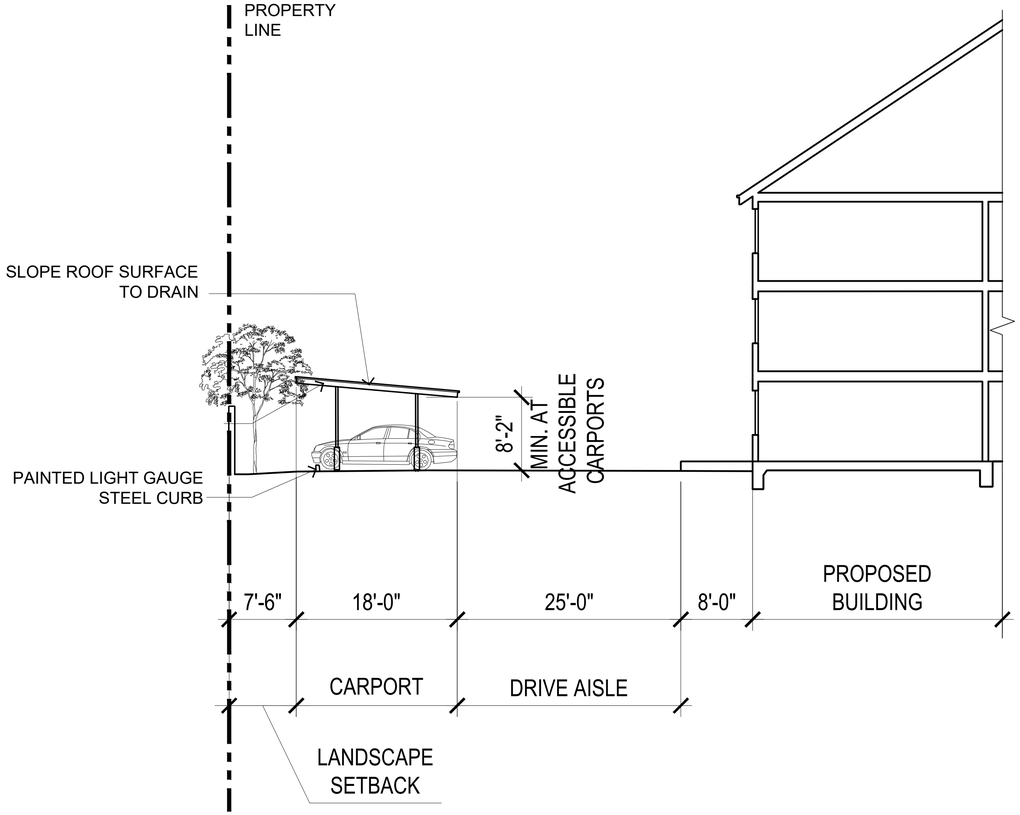
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

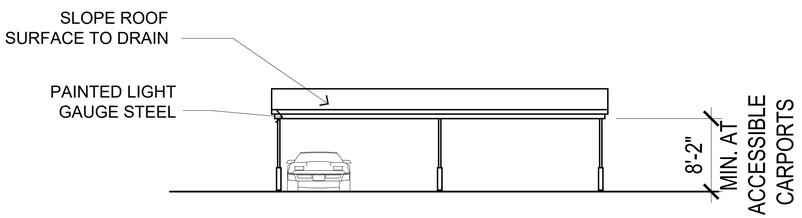
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

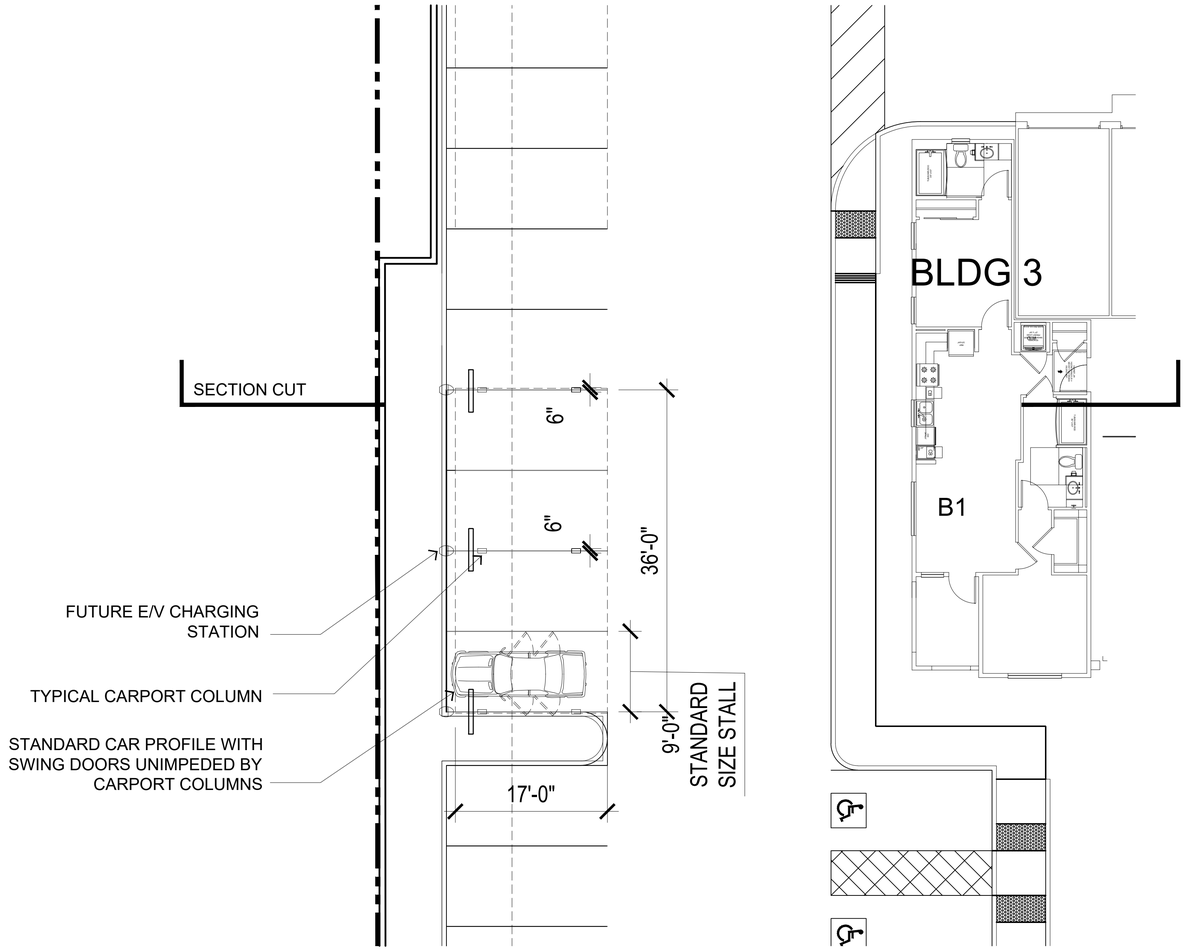
Architecture.
Design.
Relationships.



SECTION



FRONT ELEVATION



PLAN VIEW

1/8"=1'-0" (0, 4', 8', 16', 24')

PARKING SECTION

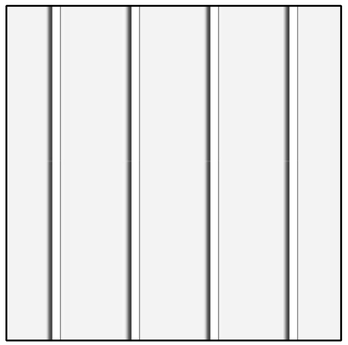
WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860
Architecture. Design. Relationships.



SD01
BOARD AND BATTEN
CEMENTITIOUS SIDING
FINISH: LIGHT SAND FINISH
COLOR: BENJAMIN MOORE
872 WHITE CHRISTMAS



WD01
PAINTED WOOD TRIM
872 WHITE CHRISTMAS



01
BENJAMIN MOORE
2133-10 ONYX

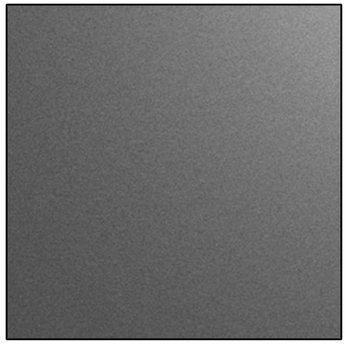
02
BENJAMIN MOORE
872 WHITE CHRISTMAS



ALUMINUM STORE
FRONT SYSTEM
CLEAR ANODIZED



RF01
ASPHALT COMPOSITION
ROOF SHINGLES



MT01
PAINTED METAL CANOPY



W01
VINYL 'NAIL ON' WINDOWS
COLOR: OFF WHITE

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

MATERIAL BOARD

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.

KEYNOTES:

SD01 - BOARD AND BATTEN CEMENTITIOUS SIDING

WD01 - PAINTED BLACK TRIM TO MATCH 01 PAINT SPEC

RF01 - ASPHALT COMPOSITION ROOF SHINGLES

MT01 - PAINTED METAL CANOPY

W01 - VINYL "NAIL ON" WINDOWS (OFF WHITE)

ST01 - STUCCO FINISH

01 - BENJAMIN MOORE 2133-10 ONYX

02 - BENJAMIN MOORE 872 WHITE CHRISTMAS



WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

RESIDENTIAL DISTRICT COLORS

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA



SHEET INDEX

OVERALL PROJECT EXHIBITS
2 COMPOSITE SITE PLAN
3 ENLARGED RESIDENTIAL DISTRICT SITE PLAN
4 ENLARGED COMMERCIAL DISTRICT SITE PLAN
5 PROJECT AREA EXHIBIT
6 EMERGENCY VEHICLE ACCESS PLAN
7 OPEN SPACE PLAN
8 ILLUSTRATIVE LANDSCAPE PLAN
9 OVERALL LANDSCAPE PLAN
10 RESIDENTIAL LANDSCAPE PLAN
11 COMMERCIAL LANDSCAPE PLAN
12 CONCEPTUAL LANDSCAPE DETAILS
13 CONCEPTUAL GRADING PLAN
14 CONCEPTUAL UTILITY PLAN
15 TENTATIVE PARCEL MAP
16 SITE LIGHTING COVER SHEET
17 SITE LIGHTING LAYOUT- PARTIAL NORTH AREA
18 SITE LIGHTING LAYOUT- PARTIAL SOUTH AREA
19 SITE PHOTOMETRICS- PARTIAL NORTH AREA
20 SITE PHOTOMETRICS- PARTIAL SOUTH AREA
21 SITE LIGHTING FIXTURE CUT SHEETS
22 SITE LIGHTING FIXTURE CUT SHEETS
23 SITE LIGHTING FIXTURE CUT SHEETS

COMMERCIAL DISTRICT EXHIBITS
24 MAJOR A FLOOR PLAN
25 MAJOR A ROOF PLAN
26 MAJOR A EXTERIOR ELEVATIONS (B&W)
27 MAJOR A SOUTH (FRONT) ELEVATION (COLOR)
28 MAJOR A WEST & EAST ELEVATIONS (COLOR)
29 MAJOR A NORTH (REAR) ELEVATION (COLOR)
30 SHOPS FLOOR PLAN
31 SHOPS ROOF PLAN
32 SHOPS SOUTH & EAST EXTERIOR ELEVATIONS (B&W)
33 SHOPS SOUTH & EAST EXTERIOR ELEVATIONS (COLOR)
34 SHOPS NORTH EXTERIOR ELEVATIONS (B&W)
35 SHOPS NORTH EXTERIOR ELEVATIONS (COLOR)
36 PAD 1 FLOOR PLAN
37 PAD 1 ROOF PLAN
38 PAD 1 SOUTH & EAST EXTERIOR ELEVATIONS (B&W)
39 PAD 1 SOUTH & EAST EXTERIOR ELEVATIONS (COLOR)
40 PAD 1 NORTH & WEST EXTERIOR ELEVATIONS (B&W)
41 PAD 1 NORTH & WEST EXTERIOR ELEVATIONS (COLOR)
42 PAD 2 FLOOR PLAN
43 PAD 2 ROOF PLAN
44 PAD 2 SOUTH & EAST EXTERIOR ELEVATIONS (B&W)
45 PAD 2 SOUTH & EAST EXTERIOR ELEVATIONS (COLOR)
46 PAD 2 NORTH & WEST EXTERIOR ELEVATIONS (B&W)
47 PAD 2 NORTH & WEST EXTERIOR ELEVATIONS (COLOR)
48 COMMERCIAL DISTRICT COLORS & MATERIALS BOARD

RESIDENTIAL DISTRICT EXHIBITS
49 BUILDING 1, 2 COMPOSITE PLAN- LEVEL 1-3
50 BUILDING 3 COMPOSITE PLAN- LEVEL 1-3 & ROOF
51 BUILDING 4 COMPOSITE PLAN- LEVEL 1-3
52 BUILDING 5 COMPOSITE PLAN- LEVEL 1-3
53 BUILDING 1 EXTERIOR ELEVATIONS (B&W)
54 BUILDING 1 EXTERIOR ELEVATIONS (COLOR)
55 BUILDING 1 EXTERIOR ELEVATIONS (B&W)
56 BUILDING 1 EXTERIOR ELEVATIONS (COLOR)
57 BUILDING 2 EXTERIOR ELEVATIONS (B&W)
58 BUILDING 2 EXTERIOR ELEVATIONS (COLOR)
59 BUILDING 2 EXTERIOR ELEVATIONS (B&W)
60 BUILDING 2 EXTERIOR ELEVATIONS (COLOR)
61 BUILDING 3 EXTERIOR ELEVATIONS (B&W)
62 BUILDING 3 EXTERIOR ELEVATIONS (COLOR)
63 BUILDING 3 EXTERIOR ELEVATIONS (B&W)
64 BUILDING 3 EXTERIOR ELEVATIONS (COLOR)
65 BUILDING 4 EXTERIOR ELEVATIONS (B&W)
66 BUILDING 4 EXTERIOR ELEVATIONS (COLOR)
67 BUILDING 4 EXTERIOR ELEVATIONS (B&W)
68 BUILDING 4 EXTERIOR ELEVATIONS (COLOR)
69 BUILDING 5 EXTERIOR ELEVATIONS (B&W)
70 BUILDING 5 EXTERIOR ELEVATIONS (COLOR)
71 BUILDING 5 EXTERIOR ELEVATIONS (B&W)
72 BUILDING 5 EXTERIOR ELEVATIONS (COLOR)
73 CONCEPTUAL PERSPECTIVE
74 CONCEPTUAL UNIT PLANS
75 CONCEPTUAL AMENITY PLAN
76 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (B&W)
77 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (COLOR)
78 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (B&W)
79 CONCEPTUAL AMENITY EXTERIOR ELEVATIONS (COLOR)
80 CONCEPTUAL PARKING SECTION
81 RESIDENTIAL DISTRICT COLORS & MATERIALS BOARD
82 RESIDENTIAL DISTRICT COLORS & MATERIALS BOARD

DESIGN TEAM

COMMERCIAL DEVELOPER:
SAGE INVESTCO, LLC
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

RESIDENTIAL DEVELOPER:
INTRACORP
895 DOVE STREET
NEWPORT BEACH, CA 92660
949.757.8461

COMMERCIAL ARCHITECT:
GK PIERCE ARCHITECTS, INC.
3 OVERTURE
ALISO VIEJO, CA 92656
949.344.2709

RESIDENTIAL ARCHITECT:
ARCHITECTS ORANGE, INC.
144 N. ORANGE STREET
ORANGE, CA 92866
714.639.9860

LANDSCAPE ARCHITECT:
URBAN ARENA, INC.
11300 SORRENTO VALLEY ROAD
SAN DIEGO, CA 92121
858.625.0112

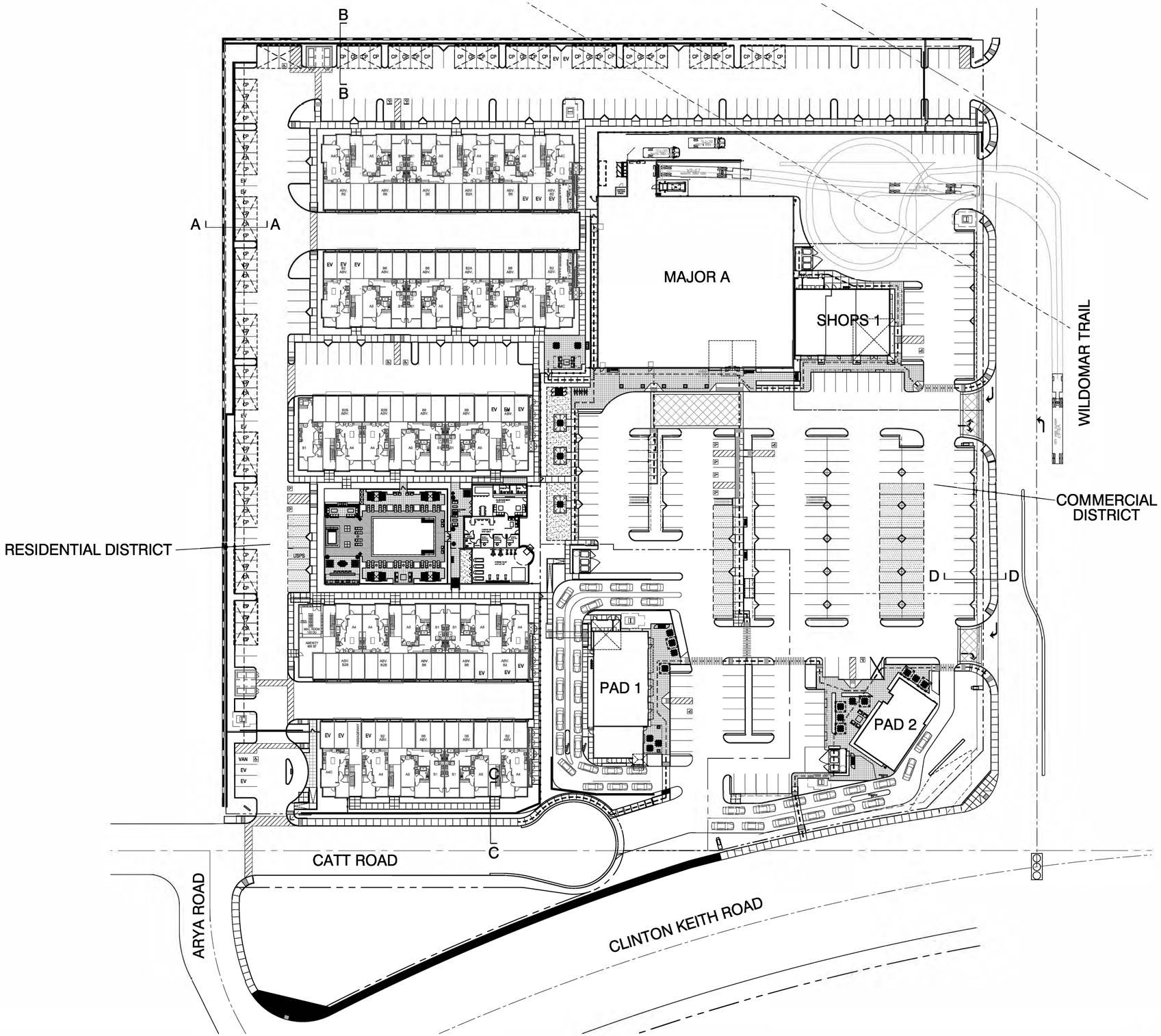
CIVIL ENGINEER:
DRC ENGINEERING, INC.
6840 INDIANA AVENUE, SUITE 215
RIVERSIDE, CA 92506
714.685.6860

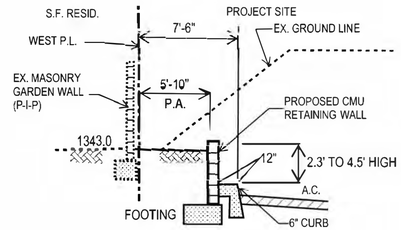
INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.757.8461

KASSEN KLEIN
Real Estate Development Entitlement Consulting
(951) 733-7665
kassen@kassenklein.com
P.O. Box 747, Murrieta, CA 92564

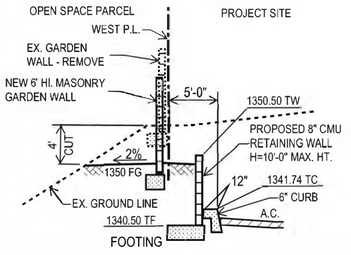
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

JUNE 23, 2022

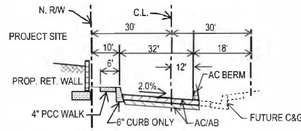




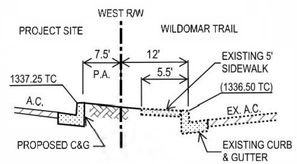
SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

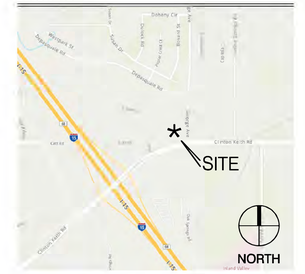


SECTION C-C CATT ROAD
LOOKING EAST
N.T.S.



SECTION D-D
N.T.S.

VICINITY



LEGAL

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-015 & -021

PROPERTY OWNER:
DAMAS CLINTON KEITH, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-016 & -017

PROPERTY OWNER:
ARAM PROPERTIES, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

DEVELOPER/ AGENT (COMMERCIAL):
SAGE INVESTCO, LLC
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

DEVELOPER/ AGENT (RESIDENTIAL):
INTRACORP SW, LLC
895 DOVE STREET, SUITE 400
NEWPORT BEACH, CA 92660
949.955.2370

ZONING

GENERAL PLAN:

ZONING:	C-P-S (SCENIC HIGHWAY COMMERCIAL) MIXED USE OVERLAY ZONE
CITY COUNCIL DISTRICT:	5
BUILDING SETBACKS:	
<35' TALL:	0'
>35' TALL:	2 FOR EACH FOOT OVER 35'
LANDSCAPE SETBACKS:	
ADJACENT TO PUBLIC ROAD RIGHT-OF-WAY:	5'
ADJACENT TO RESIDENTIAL ZONE:	5'
MAXIMUM BUILDING HEIGHT:	50'
MAXIMUM BUILDING COVERAGE:	N/A

COMMERCIAL & RESIDENTIAL DISTRICT PROJECT SUMMARIES

REFER TO ENLARGED SITE PLANS FOR SUMMARIES, DETAILS AND INFORMATION FOR EACH DISTRICT

NOTE:
THIS SITE PLAN SHOWS DEVELOPERS PLAN FOR THE CONFIGURATION OF THE PROJECT AS OF THE DATE OF THE SITE PLAN, ONLY.

BUILDING AREAS AND LAND COVERAGE ARE PRELIMINARY AND SUBJECT TO ADJUSTMENT. ANY PROPOSED DEVELOPMENT IS SUBJECT TO APPROVAL OF GOVERNMENT OR OTHER AGENCIES HAVING JURISDICTION. ALL DIMENSIONS AND SITE CONDITIONS ARE SUBJECT TO VERIFICATION.

MASTER SITE PLAN SCHEME Jv11

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 20' 40' 80'
SCALE: 1" = 40.00'
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

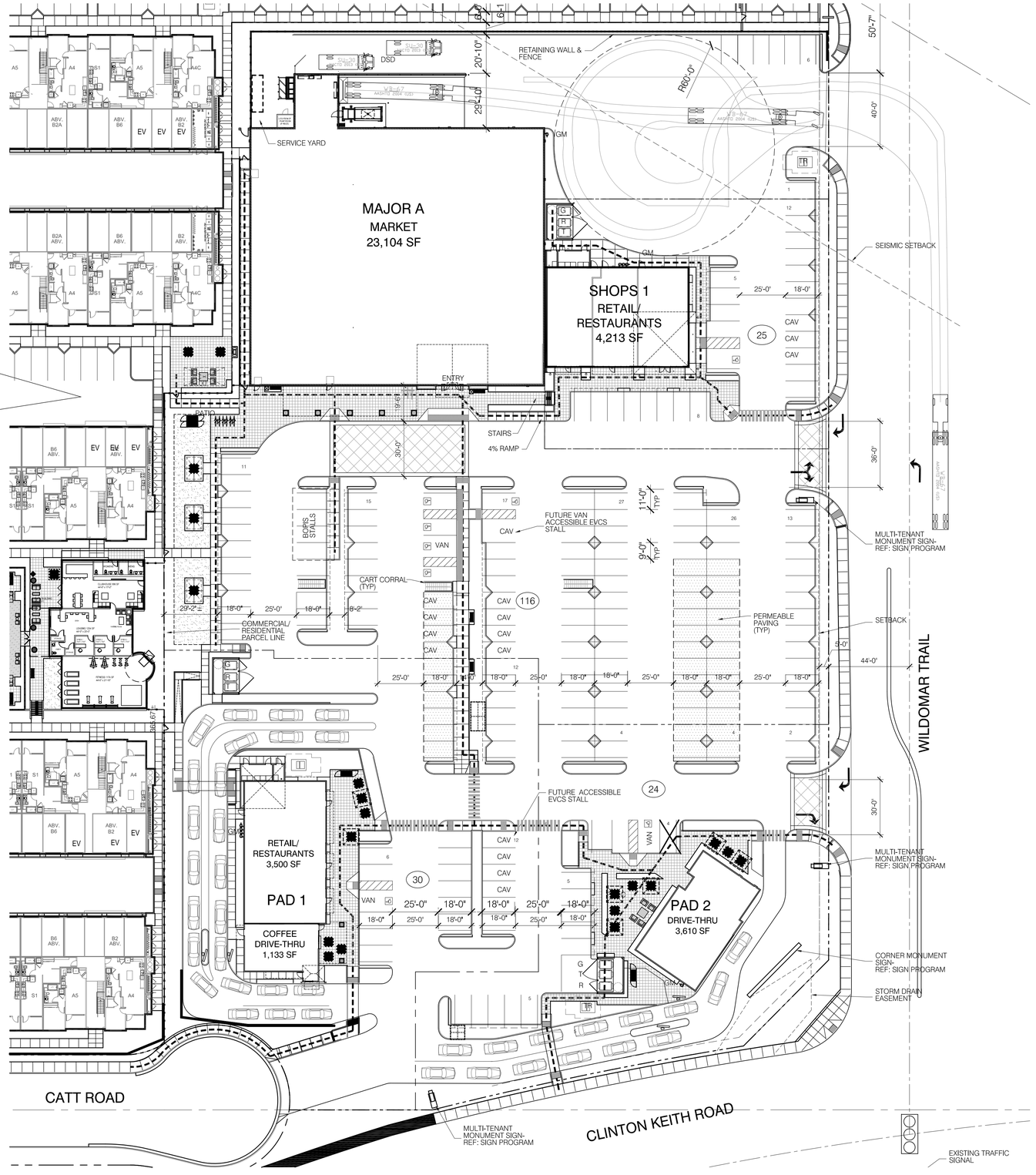
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

REFER TO ENLARGED RESIDENTIAL DISTRICT SITE PLAN FOR ALL INFORMATION IN THE RESIDENTIAL DISTRICT



PARKING WMC 17.188.030

REQUIRED PARKING:
SHOPPING CENTERS (6/ 1,000 NET LEASABLE): 208 STALLS

TOTAL PARKING PROVIDED: 195 STALLS (5.6/ 1,000)

STANDARD PARKING SPACE DIMENSIONS: 9' X 18'
COMPACT PARKING SPACE DIMENSIONS (20% MAX): 8.5' X 16'
MINUMUM DRIVE AISLE WIDTH: 24'
DRIVE-THRU STACKING DISTANCE (PER VEHICLE): 25'
MIN STACKING IN DRIVE-THRU: 12 CARS PRIOR TO MENU BD

ACCESSIBLE PARKING

2019 CBC
TABLE 11B-208.2

TOTAL NUMBER OF PARKING SPACES PROVIDED	TOTAL NUMBER OF ACCESSIBLE SPACES
1- 25	1
26- 50	2
51- 75	3
76- 100	4
101- 150	5
151- 200	6
201- 300	7
301- 400	8
401- 500	9
501- 1,000	2 PERCENT OF TOTAL
1,001 AND OVER	20 PLUS 1/100 OVER 1,000

TOTAL PARKING PROVIDED: 195 STALLS
TOTAL ACCESSIBLE SPACES REQUIRED: 6 STALLS
VAN ACCESSIBLE REQ'D (SEC.11B-208.2.4) 2 OF TOTAL REQ'D

ACCESSIBLE SPACES PROVIDED:
STANDARD STALL: 3 STALLS
VAN ACCESSIBLE STALLS: 4 STALLS

TOTAL ACCESSIBLE SPACES PROVIDED: 7 STALLS

CLEAN AIR VEHICLE PARKING

2019 CAL GREEN
TABLE 5.106.5.2

TOTAL NUMBER OF PARKING SPACES	TOTAL NUMBER OF PARKING SPACES
0- 9	0
10- 25	1
26- 50	3
51- 75	6
76- 100	8
101- 150	11
151- 200	16
201 AND OVER	8 PERCENT OF TOTAL

TOTAL PARKING PROVIDED: 195 STALLS
TOTAL CAV PARKING REQUIRED: 16 STALLS
TOTAL CAV PARKING PROVIDED: **16 STALLS

**(CALGREEN 5.106.5.3.5: FUTURE EVCS SPACES QUALIFY AS DESIGNATED PARKING FOR CLEAN AIR VEHICLES)

FUTURE ELECTRICAL VEHICLE CHARGING STATIONS

2019 CAL GREEN
TABLE 5.106.5.3.3

TOTAL NUMBER OF PARKING SPACES	TOTAL NUMBER OF EVCS SPACES
0- 9	0
10- 25	1
26- 50	2
51- 75	4
76- 100	5
101- 150	7
151- 200	10
201 AND OVER	6 PERCENT OF TOTAL

2019 CBC
TABLE 11B-228.3.2.1

TOTAL NUMBER OF EVCS AT A FACILITY	VAN ACCESSIBLE	STANDARD ACCESSIBLE	AMBULATORY
1- 4	1	0	0
5-25	1	1	0
26- 50	1	1	1
51- 75	1	2	2
76- 100	1	3	3
101 AND OVER	1 + 1/300 OVER 100	3 + 1/60 OVER 100	1 + 1/50 OVER 100

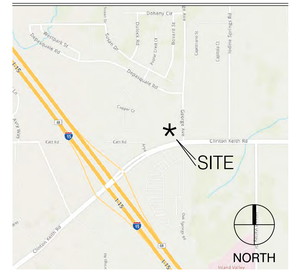
TOTAL PARKING PROVIDED: 195 STALLS
FUTURE EVCS SPACES REQUIRED): 10 STALLS
FUTURE ACCESSIBLE SPACES REQ'D (OF TOTAL):
VAN ACCESSIBLE: 1 STALL
STANDARD ACCESSIBLE: 1 STALL
AMBULATORY: 0 STALLS

FUTURE EVCS SPACES PROVIDED:
FUTURE STANDARD EVCS SPACES: 14 STALLS
FUTURE VAN ACCESSIBLE EVCS: 1 STALLS
FUTURE STANDARD ACCESSIBLE EVCS: 1 STALLS
FUTURE AMBULATORY EVCS: 0 STALLS

TOTAL FUTURE EVCS SPACES PROVIDED: 16 STALLS

FUTURE EVCS NOTES:
1. ALL CLEAN AIR VEHICLE PARKING SPACES SHALL BE PROVIDED WITH INFRASTRUCTURE FOR THE ADDITION OF FUTURE ELECTRIC VEHICLE CHARGING STATIONS.
2. FUTURE ACCESSIBLE EVCS STALLS SHALL BE CONSTRUCTED TO MEET CURRENT ACCESSIBILITY STANDARDS ALONG ACCESSIBLE ROUTES OR, HAVE THE ABILITY TO BE MODIFIED WITHOUT AFFECTING REQUIRED PARKING SPACE QUANTITIES.

VICINITY



LEGAL

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-015 & -021

PROPERTY OWNER:
DAMAS CLINTON KEITH, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

PROPERTY ADDRESS:
24850- 23980 CATT ROAD
WILDOMAR, CA 92595

AP# 376-420-016 & -017

PROPERTY OWNER:
ARAM PROPERTIES, LLC
ATTN: CARMELLA LOELKES
3225 McLEOD DRIVE, SUITE 777
LAS VEGAS, NV 89121

DEVELOPER/ AGENT (COMMERCIAL):
SAGE INVESTCO, LLC
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

ZONING

GENERAL PLAN:

ZONING: C-P-S (SCENIC HIGHWAY COMMERCIAL)
MIXED USE OVERLAY ZONE
CITY COUNCIL DISTRICT: 5

BUILDING SETBACKS:
<35' TALL: 0'
>35' TALL: 2 FOR EACH FOOT OVER 35'
LANDSCAPE SETBACKS:
ADJACENT TO PUBLIC ROAD RIGHT-OF-WAY: 5'
ADJACENT TO RESIDENTIAL ZONE: 5'

MAXIMUM BUILDING HEIGHT: 50'

MAXIMUM BUILDING COVERAGE: N/A

COMMERCIAL PROJECT SUMMARY

LAND AREA: 4.55 AC (198,085 SF±)

RETAIL/ RESTAURANTS: 34,540 SF

BUILDING COVERAGE (F.A.R.): 17.4%

NOTE:
THIS SITE PLAN SHOWS DEVELOPERS PLAN FOR THE CONFIGURATION OF THE PROJECT AS OF THE DATE OF THE SITE PLAN, ONLY.

BUILDING AREAS AND LAND COVERAGE ARE PRELIMINARY AND SUBJECT TO ADJUSTMENT. ANY PROPOSED DEVELOPMENT IS SUBJECT TO APPROVAL OF GOVERNMENT OR OTHER AGENCIES HAVING JURISDICTION. ALL DIMENSIONS AND SITE CONDITIONS ARE SUBJECT TO VERIFICATION.

COMMERCIAL DISTRICT SITE PLAN SCHEME Jv10

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
26 MAY 2022

0 15' 30' 60'
SCALE: 1" = 30.00'
NORTH

WILDOMAR CROSSROADS

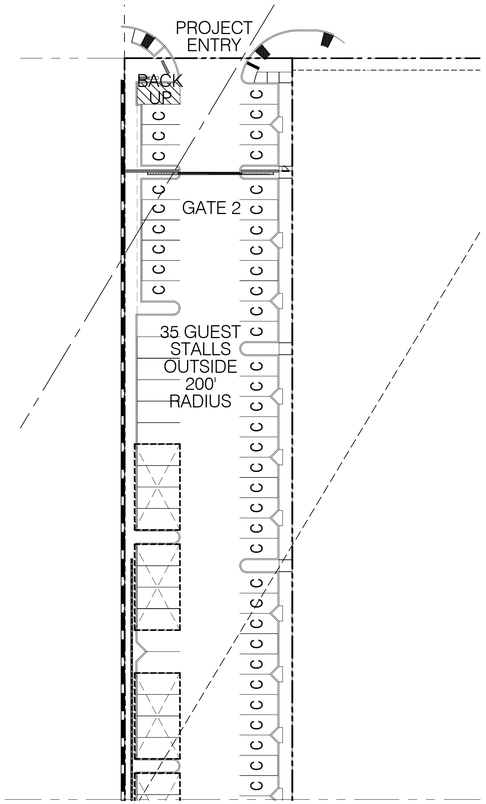
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

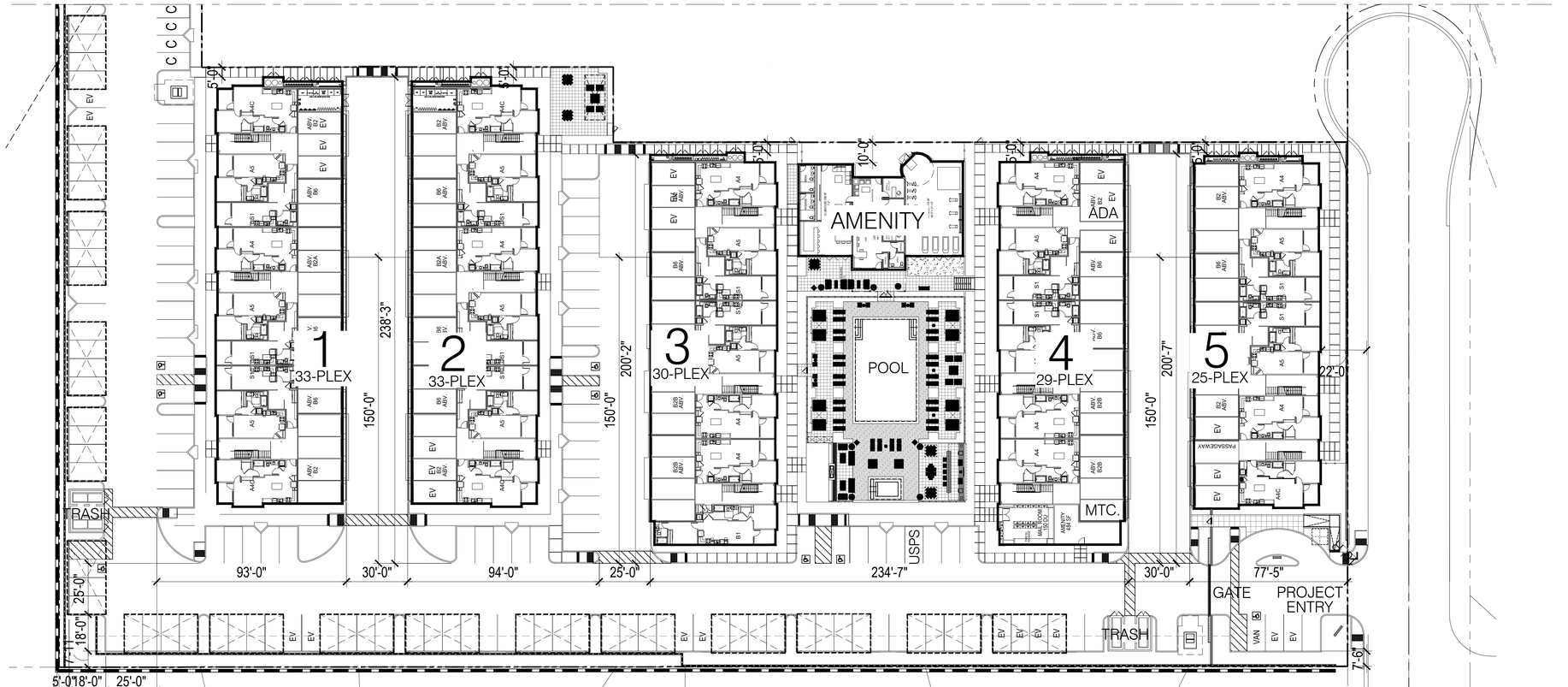
©GK PIERCE ARCHITECTS, INC. 2022

2680



SEE PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-A

SEE PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-B



PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-B

PARTIAL CONCEPTUAL RESIDENTIAL SITE PLAN-A

SITE PLAN - 150 DU

PROJECT DESCRIPTION:
3-STORY, PRIVATELY FUNDED MARKET-RATE APARTMENTS (R-2 OCCUPANCY) WITH ATTACHED GARAGES (U OCCUPANCY), TYPE VA CONSTRUCTION WITH NFPA 13R AND 13 SPRINKLER SYSTEMS.

SITE AREA: 4.48 AC
UNITS: 150 DU
DENSITY: 33.5 DU/AC

Parking Required:			
Type	Count	Ratio	QTY
Studio	12	1.25	15
1 Bedroom	81	1.25	101
2 Bedroom	57	2.25	128
Guest	245	0.15	37
TOTAL STALLS REQUIRED		**(1.88 ST/ DU)**	**282**
Total Accessible Stalls Assigned(Incl. 1 Van)			2
Total Accessible Sta 1 per 6 H/C stalls			2
Total EV Stalls Required			29

Parking Provided:	
Garage Stalls	77
Garage Stalls (ADA)	1
Standard Carport Sta 1 per 6 H/C stalls	66
Open Stalls Standard	61
Open Stalls Compact	44
Accessible Stalls Car Open (Incl.1EV)	5
Accessible Stalls Car at Carport	1
Accessible Stalls Van (Incl. 1EV)	1
EV Stalls at Carport	4
EV Stalls at PrivateGarages	15
EV Stalls Open (not incl. 1 ADA Van & 1 ADA Car)	8
TOTAL STALLS PROVIDED	**283**

TOTAL UNIT SUMMARY

Unit	Unit SF	Qty.	Total *	Deck SF	Deck Total	Qty.	Percentage
S1	580	12	6,960	80	960	12	8%
A2	661	2	1,322	76	152	81	54%
A4	788	24	18,912	70	1,680		
A4C	810	19	15,390	70	1,330		
A5	630	36	22,680	76	2,736		
B1	946	5	4,730	70	350	57	38%
B2	981	20	19,620	70	1,400		
B2B	936	8	7,488	70	560		
B6	1,115	24	26,760	76	1,824		
Avg.	**826**	**150**	**123,862**	**73**	**10,992**	150	100%
* RESIDENTIAL UNIT NET AREA							

NORTH

0 15' 30' 60' 90'
1"=30'-0"

CONCEPTUAL RESIDENTIAL SITE PLAN 3

CONCEPTUAL RESIDENTIAL SITE PLAN SCHEME Hv5
NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
23 JUNE 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

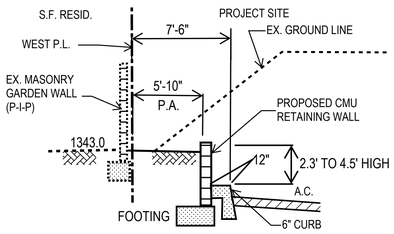
©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

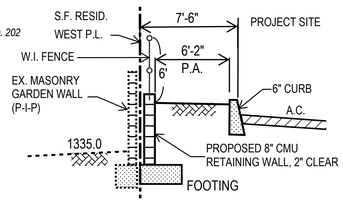
WILDOMAR, CALIFORNIA

CONSTRUCTION NOTES

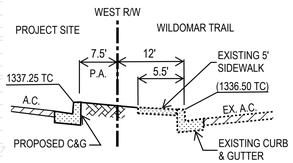
1. CONSTRUCT 3" AC/10" AB, PARKING STALLS
1A. CONSTRUCT 4" AC/14" AB, DRIVE AISLES
2. CONSTRUCT 6" PCC CURB ONLY
3. CONSTRUCT 6" PCC CURB & 18" GUTTER
4. CONSTRUCT 4" PCC SIDEWALK.
5. CONSTRUCT ACCESSIBLE CURB–CUT RAMP.
6. CONSTRUCT 3' WIDE TRUNCATED DOMES.
7. CONSTRUCT 4" MOUNTABLE CURB & GUTTER
8. INSTALL SD. DRAIN INLET GRATE AND DRAIN BOX.
9. INSTALL CATCH BASIN.
10. CONSTRUCT PCC COMMERCIAL DRIVEWAY PER CITY STD.
11. CONSTRUCT PCC RIBBON GUTTER, 3' WIDE
12. CONSTRUCT PCC ROLLED CURB, TYPE C, PER CITY STD. 202



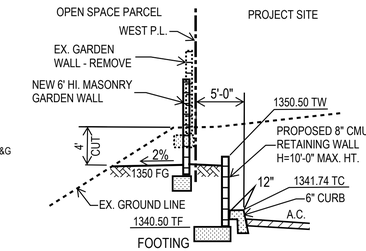
SECTION A-A
N.T.S.



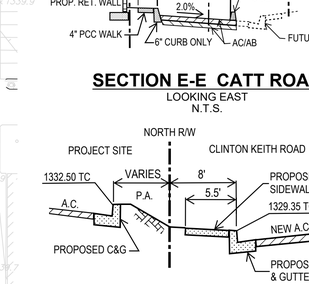
SECTION B-B
N.T.S.



SECTION D-D
N.T.S.

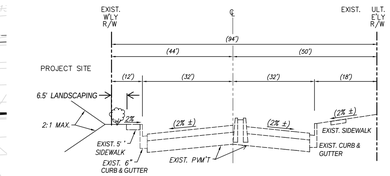


SECTION C-C
N.T.S.

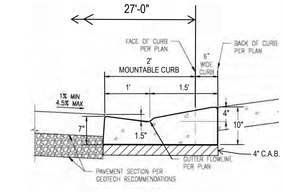


SECTION E-E CATT ROAD
LOOKING EAST
N.T.S.

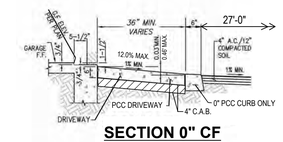
SECTION F-F
N.T.S.



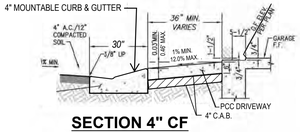
TYPICAL SECTION – WILDOMAR TRAIL
T.I.=8.5, R=34
N.T.S.



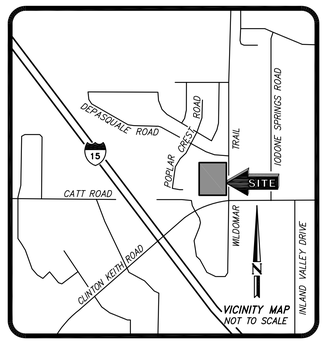
4" MOUNTABLE CURB AND GUTTER
N.T.S.



SECTION 0" CF



SECTION 4" CF



PROJECT AREA: 9.00 ACRES
TOTAL DISTURBED AREA: 10.05 ACRES

PRELIM. EARTHWORK QUANTITIES	
RAW CUT	67,340 CY
RAW FILL	22,390 CY
SOIL OVEREX.	67,160 CY
EARTH EXPORT	38,761 CY

REGISTERED PROFESSIONAL ENGINEER
RONALD W. SKLEPKO
No. C46216
Exp. 12-31-2022
CIVIL
STATE OF CALIFORNIA

GRAPHIC SCALE: 1"=50'

PROPERTY ADDRESS:
24850-23980 CATT ROAD
WILDOMAR, CA 92595

PROPERTY OWNERS:
DAMAS CLINTON KEITH, LLC
3225 McLEOD DR., SUITE 777
LAS VEGAS, NV 89121
APN: 376-420-015 & 021

ARAM PROPERTIES, LLC
3225 McLEOD DR., SUITE 777
LAS VEGAS, NV 89121
APN: 376-420-016 & 017

DEVELOPERS:
SAGE INVESTCO, LLC
4350 VON KARMAN AVE., SUITE 200
NEWPORT BEACH, CA 92660
TEL: 949-705-0426

INTRACORP SW, LLC
895 DOVE ST, SUITE 400
NEWPORT BEACH, CA 92660
TEL: 949-757-8470

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860
PREPARED BY: Ronald W. Sklepko 6-23-2022
RONALD W. SKLEPKO DATE
R.C.E. No. C46216 EXP. 12–31– 2022

CONCEPTUAL GRADING PLAN
TENTATIVE PARCEL MAP NO. 38333
NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 6-23-2022
JOB #21-994

SHEET C-1

FILENAME: M:\2021\21-994 Sage Investco Wildomar Retail\MA\21994 MAO1.dwg, LAST SAVED ON: Apr 13 2022 9:10am PLOTTED BY: BOB, ON: Apr 13 2022 11:01am, CFS:

IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

TENTATIVE PARCEL MAP NO. 38333

BEING A SUBDIVISION OF PARCELS 1, 2, 3 AND 4 OF PARCEL MAP 8705
PER BOOK 36, PAGE 69 OF MAPS RECORDS OF RIVERSIDE COUNTY

DATE OF FIELD SURVEY
JULY, 2021

TAX PARCEL NO.
376-410-015, 376-410-016,
376-410-017, 376-410-021

TITLE INFORMATION

THE TITLE INFORMATION SHOWN HEREON IS PER PRELIMINARY REPORT FOR TITLE INSURANCE NO. OSA-6544937 DATED APRIL 28, 2021 AS PREPARED BY FIRST AMERICAN TITLE COMPANY, SANTA ANA, CA [TITLE OFFICER: RIZZA WALKER, TELEPHONE: (714) 250-3098] NO RESPONSIBILITY OF CONTENT, COMPLETENESS OR ACCURACY OF SAID COMMITMENT IS ASSUMED BY THIS MAP OR THE SURVEYOR.

RECORD OWNER

DAMAS CLINTON KEITH LLC, AS TO AN UNDIVIDED 40% INTEREST AND 24850-23980 CATT RD TRUST DATED NOVEMBER 27, 2020, LAHN VALLEY LLC A WYOMING LIMITED LIABILITY COMPANY, ITS SUCCESSOR OR SUCCESSORS IN INTEREST, AS TRUSTEE, AS TO AN UNDIVIDED 60% INTEREST AS TENANTS IN COMMON, AS TO PARCELS ONE AND TWO;

ARAM PROPERTIES, LLC., A CALIFORNIA LIMITED LIABILITY COMPANY, AS TO PARCELS THREE AND FOUR

LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF WILDOMAR, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL ONE:
PARCEL 4 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL TWO:
PARCEL 1 OF PARCEL MAP 8705 AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL THREE:
PARCEL 2 OF PARCEL MAP 8705 IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN ON FILE IN BOOK 36, PAGE 69 OF PARCEL MAPS IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL FOUR:
PARCEL 3 OF PARCEL MAP NO. 8705, AS SHOWN BY MAP ON FILE IN BOOK 36, PAGE 69 OF PARCEL MAPS, RIVERSIDE COUNTY RECORDS.

TITLE EASEMENTS

THE FOLLOWING MATTERS AFFECT PARCEL ONE:

4 AN EASEMENT IN FAVOR OF CALIFORNIA ELECTRIC POWER COMPANY, ITS SUCCESSORS AND ASSIGNS FOR EITHER OR BOTH POLE LINES, CONDUITS OR UNDERGROUND FACILITIES AND INCIDENTAL PURPOSES, RECORDED NOVEMBER 16, 1954 AS BOOK 1654, PAGE 530 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - SAID DOCUMENT DOES NOT PROVIDE A WIDTH - CENTERLINE PLOTTED HEREON AS [A])

5 AN EASEMENT IN FAVOR OF THE COUNTY OF RIVERSIDE, FOR PUBLIC ROAD AND DRAINAGE PURPOSES, INCLUDING PUBLIC UTILITY AND PUBLIC SERVICES PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137039 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - PLOTTED HEREON AS [B])

6 AN EASEMENT IN FAVOR OF THE COUNTY OF RIVERSIDE, FOR DRAINAGE PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137040 OF OFFICIAL RECORDS.

(DOCUMENT AFFECTS - PLOTTED HEREON AS [C])

7 AN EASEMENT IN FAVOR OF COUNTY OF RIVERSIDE, FOR DRAINAGE PURPOSES AND INCIDENTAL PURPOSES, RECORDED FEBRUARY 28, 2007 AS INSTRUMENT NO. 2007-0137041 OF OFFICIAL RECORDS.

THE INTEREST OF THE EASEMENT HOLDER HAS SINCE BEEN TRANSFERRED TO THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT BY INSTRUMENTS RECORDED MARCH 01, 2012 AS INSTRUMENT NO. 2012-093233 AND APRIL 20, 2012 AS INSTRUMENT NO. 2012-0181346, BOTH OF OFFICIAL RECORDS.

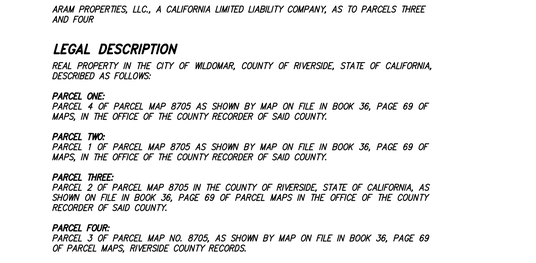
(DOCUMENTS AFFECT - PLOTTED HEREON AS [D])

BASIS OF BEARINGS

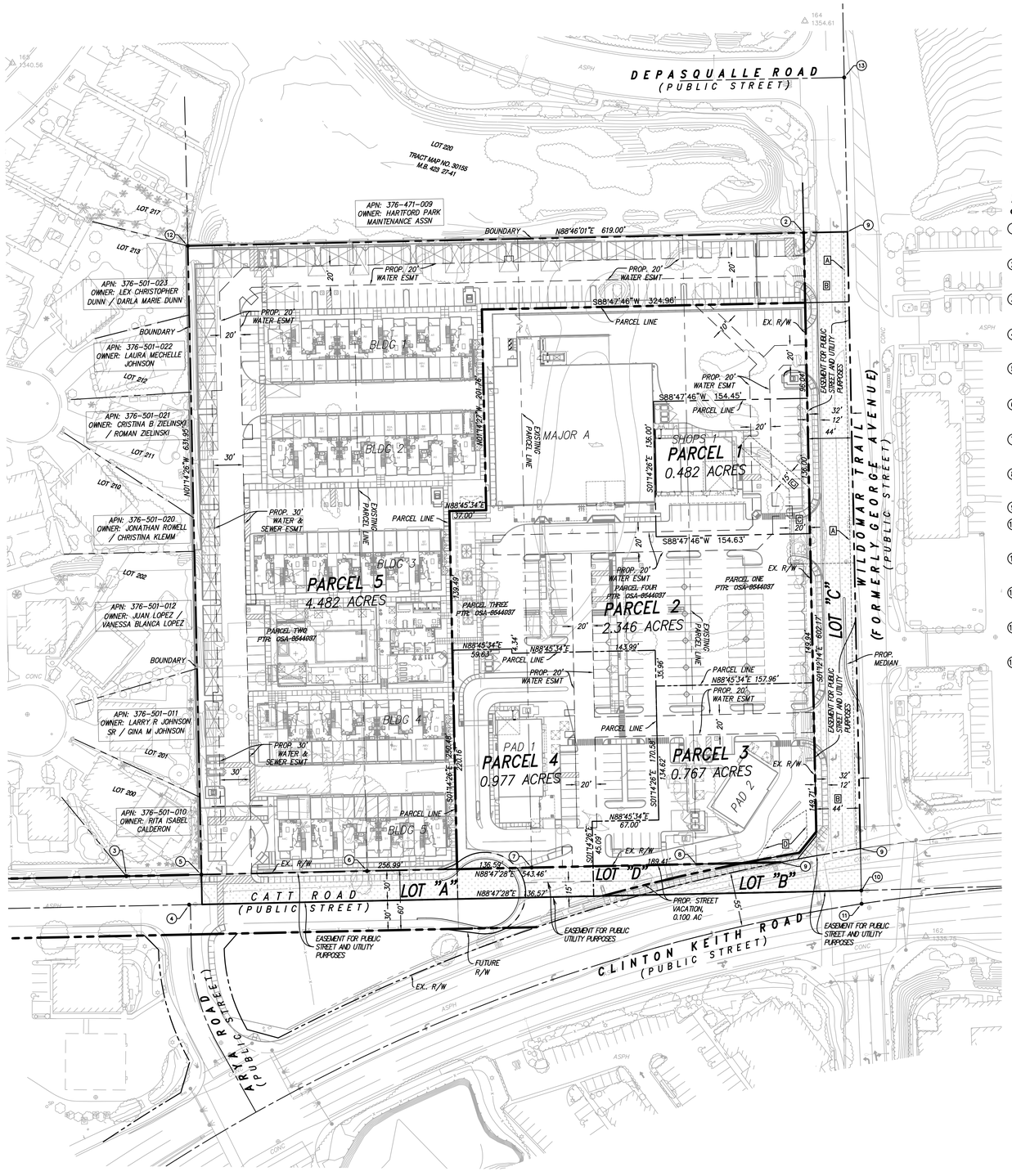
THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE OF CATT ROAD AS SHOWN ON PARCEL MAP NO. 8705, FILED IN PARCEL MAP BOOK 36, PAGE 69, BEING NORTH 88°47'20" EAST.

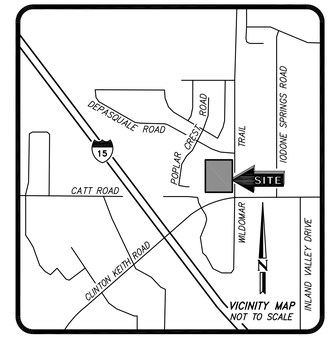
BENCH MARK

B.M. # T-59-81
3" ALUMINUM DISK IN CONC. CYLINDER. FROM THE INT. OF IVY ST. AND WASHINGTON ST., 3.6 MILES N.W. ON WASHINGTON-PALOMAR STS. TO THE INT. OF PALOMAR AND CLINTON KEITH RD., TO THE INT. OF CLINTON KEITH RD. AND GRAND AVE. IN THE N. COR. OF THE "T" INT.; 124.8' W. OF CLINTON KEITH RD.; 47.6' NO. OF GRAND AVE; 6' NE. OF A 1" I.P. W/PLASTIC PLUG LS 2606: 2' S. OF A 6' CHAIN LINK FENCE AROUND A S.C.E POWER STATION AND R.C.W.D. WELL SITE; 10' N. OF P.P. #2075052E; SET FIBERGLASS WITNESS POST 1' NORTH. ELEV. 1192.072



TYPICAL SECTION - WILDOMAR TRAIL
T.I.=8.5, R=34
N.T.S.





MONUMENT AND ESTABLISHMENT NOTES

- ● INDICATES FOUND MONUMENT AS NOTED BELOW.
- (1) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, DOWN 0.6'. ACCEPTED AS POINT ON THE CENTERLINE OF CATT ROAD.
- (2) INDICATES FOUND LEAD, TACK AND TAG STAMPED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.
- (3) INDICATES FOUND 1" IRON PIPE (WITH PLASTIC PLUG) TAGGED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.
- (4) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CATT ROAD AND ARYA DRIVE.
- (5) INDICATES FOUND 1" IRON PIPE (WITH PLASTIC PLUG) TAGGED "LS 7910" PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., DOWN 0.5'.
- (6) INDICATES FOUND 1" IRON PIPE TAGGED "L.S. 3365", PER R1, DOWN 0.4'. SAID MONUMENT IS LOCATED SOUTH 01°18'34" EAST, 0.11 FEET FROM THE SOUTH COMMON CORNER BETWEEN PARCELS 1 AND 2 OF R1.
- (7) INDICATES FOUND 1" IRON PIPE TAGGED "L.S. 3365", PER R1, DOWN 0.4'. SAID MONUMENT IS LOCATED SOUTH 01°17'00" WEST, 0.25 FEET FROM THE SOUTH COMMON CORNER BETWEEN PARCELS 2 AND 3 OF R1.
- (8) INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED THE SOUTH COMMON CORNER BETWEEN PARCELS 3 AND 4 OF R1 BY PRORATION USING R1 DATA.
- (9) INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED BY INTERSECTION.
- (10) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CATT ROAD AND GEORGE AVENUE.
- (11) INDICATES FOUND 1" IRON PIPE WITH ILLEGIBLE PLASTIC PLUG, NO REFERENCE, FLUSH. ACCEPTED AS THE CENTERLINE INTERSECTION OF CLINTON KEITH ROAD AND GEORGE AVENUE.
- (12) INDICATES FOUND LEAD, TACK AND TAG STAMPED "LS 7910" ON TOP OF WALL, PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH WITH TOP OF WALL.
- (13) INDICATES FOUND QN SPINDLE WITH WASHER STAMPED "LS 7910", PER CERTIFICATE OF CORRECTION RECORDED 9/20/2011 AS DOCUMENT NO. 2011-0415389, O.R., FLUSH.
- (14) INDICATES SEARCHED, NOTHING FOUND. ESTABLISHED BY HOLDING RECORD DATA PER R1.

LINE LEGEND

- PROPERTY LINE
- CENTER LINE
- EASEMENT
- PARCEL LINE
- EXISTING LOT LINE/ RIGHT-OF-WAY LINE

UTILITIES

ELECTRIC: SOUTHERN CALIFORNIA EDISON COMPANY
1351 E. FRANCIS
ONTARIO, CA 91761
(800) 655-4555

WATER: ELSINORE VALLEY MUNICIPAL WATER DISTRICT
31315 CHANEY STREET
LAKE ELSINORE, CA 92531-3000
(951) 674-3146

GAS: SOUTHERN CALIFORNIA GAS COMPANY
1981 LUGONIA
REDLANDS, CA 92373
(800) 427-2200

CABLE: CHARTER COMMUNICATIONS
7337 CENTRAL AVENUE
RIVERSIDE, CA 92504
(909) 359-8989

TELEPHONE: PACIFIC BELL TELEPHONE / SBC
3939 E. CORONADO
ANAHEIM, CA 92807
(800) 750-2355

SEWER: ELSINORE VALLEY MUNICIPAL WATER DISTRICT
31315 CHANEY STREET
LAKE ELSINORE, CA 92531-3000
(951) 674-3146

ZONING / LAND USE

SCENIC HIGHWAY COMMERCIAL (C-P-S) WITH A HOUSING ELEMENT MIXED USE OVERLAY

DEVELOPER

SAGE CITRUS FONTANAN, LLC
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
TELE: 949-954-5100

ENGINEER

DRC ENGINEERING, INC.
6840 INDIANA AVENUE, SUITE 215
RIVERSIDE, CA 92506
(714) 685 - 6860 X 307

CONTACT: RONALD W. SKLEPKO, P.E.

AREA SUMMARY

PARCEL 1:	0.482 ACRES
PARCEL 2:	2.346 ACRES
PARCEL 3:	0.767 ACRES
PARCEL 4:	0.977 ACRES
PARCEL 5:	4.482 ACRES
TOTAL:	9.054 ACRES
STREET VACATION:	0.100 ACRES
NET	8.95 ACRES

LOT SUMMARY

LOT "A":	0.240 ACRES
LOT "B":	0.149 ACRES
LOT "C":	0.624 ACRES
LOT "D":	0.100 ACRES (VACATION AREA)

PROJECT AREA: 9.05 ACRES
TOTAL DISTURBED AREA: 10.05 ACRES

PRELIMINARY EARTHWORK QUANTITIES	
RAW CUT	67,340 CY
RAW FILL	22,390 CY
SOIL OVEREX.	67,160 CY
EARTHWORK EXPORT	38,761 CY

N

50' 25' 0' 50' 100'
GRAPHIC SCALE: 1 INCH = 50 FT

811 Know what's below. Call before you dig.

MARK	BY	DATE	REVISIONS	APPR.	DATE

SEAL-DESIGN ENGINEER
REGISTERED PROFESSIONAL ENGINEER RONALD W. SKLEPKO No. C46216 (Exp. 12-31-2022) CIVIL STATE OF CALIFORNIA

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PLANS PREPARED UNDER THE SUPERVISION OF:
RONALD W. SKLEPKO R.C.E. 46216 DATE

BENCH MARK:
RIVERSIDE COUNTY B.M. H-10-2 (SEE DESCRIPTION HEREON)

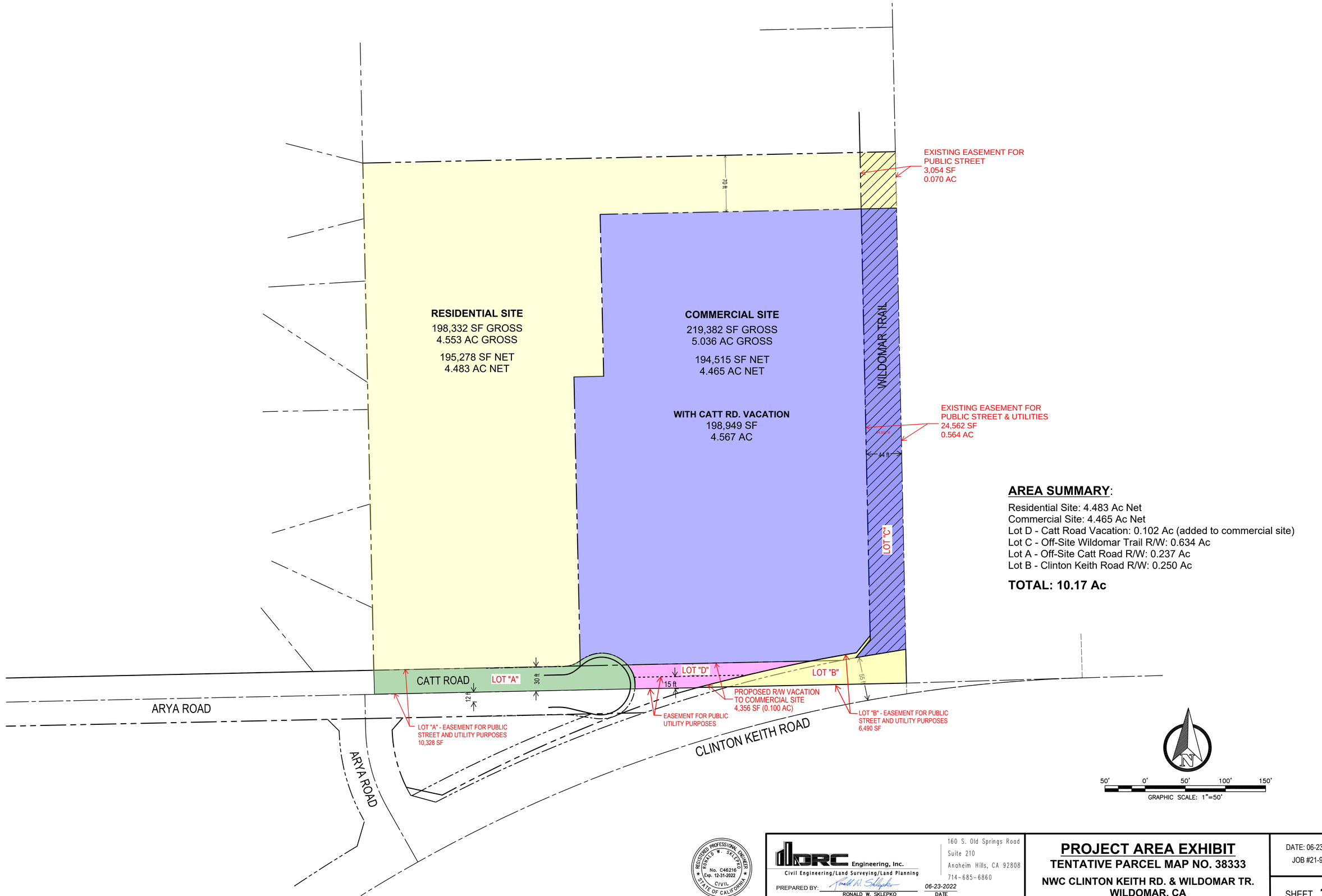
SCALE: PER PLAN

CITY OF WILDOMAR
PARCEL MAP NO. 38333
N.W. WILDOMAR TRAIL AND CLINTON KEITH ROAD
CITY OF WILDOMAR, COUNTY OF RIVERSIDE

1 OF 1 SHEETS

FOR: CITY OF WILDOMAR
PLAN No. _____

U:\2021\21-094 Sage Investco Wildomar Retail\TM\21-094 Wildomar Trail (portion).dwg, Apr 23, 2022 - 11:15am



AREA SUMMARY:

Residential Site: 4.483 Ac Net
Commercial Site: 4.465 Ac Net
Lot D - Catt Road Vacation: 0.102 Ac (added to commercial site)
Lot C - Off-Site Wildomar Trail R/W: 0.634 Ac
Lot A - Off-Site Catt Road R/W: 0.237 Ac
Lot B - Clinton Keith Road R/W: 0.250 Ac

TOTAL: 10.17 Ac

REGISTERED PROFESSIONAL ENGINEER
RONALD W. SKLEPKO
No. C46216
Exp. 12-31-2022
CIVIL
STATE OF CALIFORNIA

RBF Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning
160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PREPARED BY: Ronald W. Sklepko 06-23-2022
RONALD W. SKLEPKO DATE
R.C.E. No. C46216 EXP. 12-31-2022

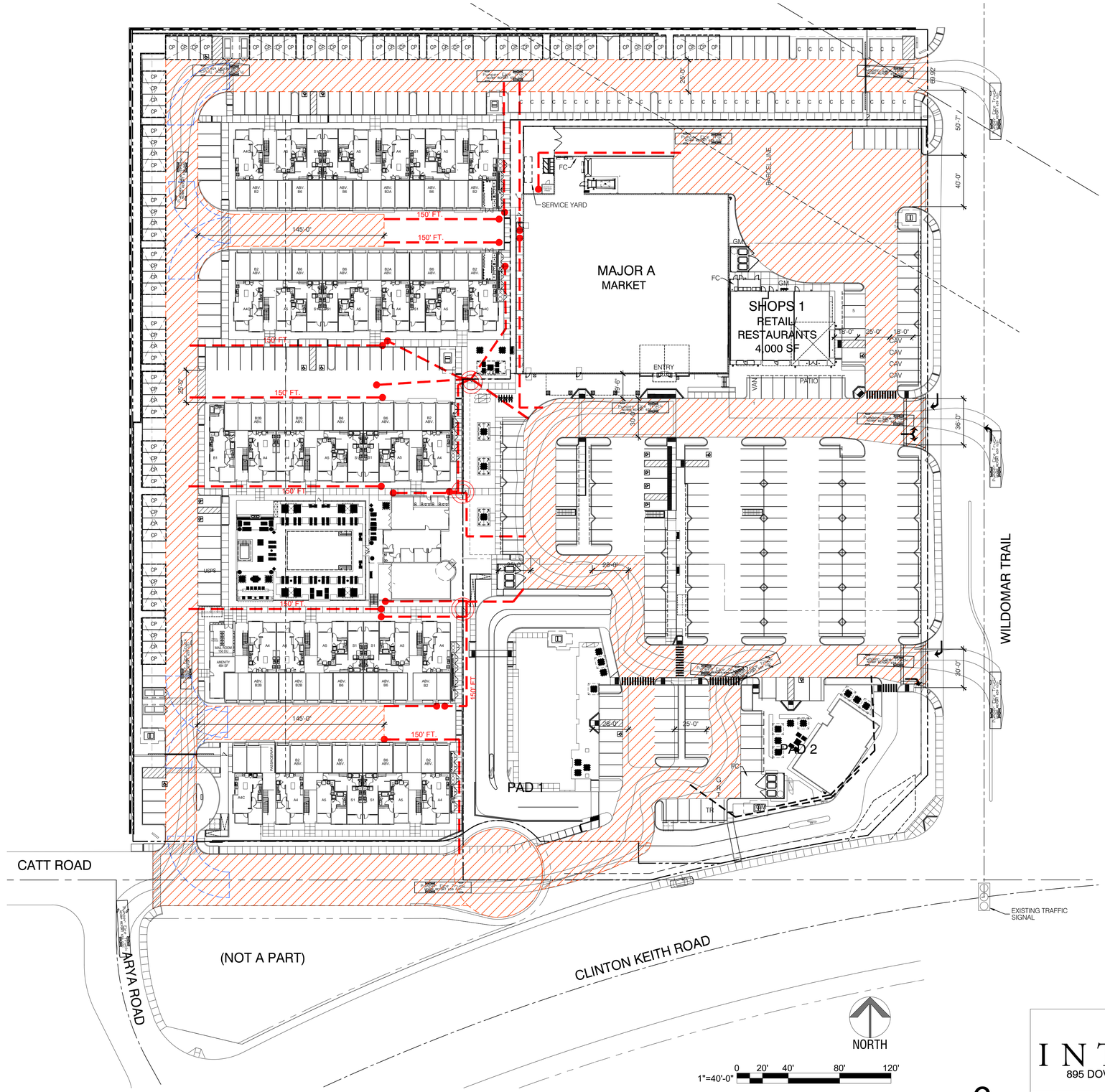
PROJECT AREA EXHIBIT

TENTATIVE PARCEL MAP NO. 38333

NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 06-23-2022
JOB #21-994

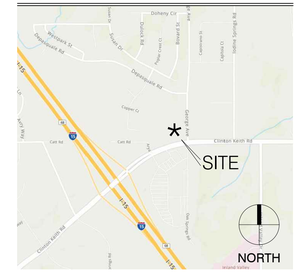
SHEET 1



EMERGENCY ACCESS SITE PLAN

6

VICINITY



LEGEND & SYMBOLS

DDC	DOUBLE DETECTOR CHECK VALVE- REF: CIVIL DRAWINGS
FDC	FIRE DEPARTMENT CONNECTION- REF: CIVIL DRAWINGS
FC	FIRE CONTROL/ SPRINKLER RISER
FH	FIRE HYDRANT- REF: CIVIL DRAWINGS PROVIDE BLUE REFLECTOR @ CL DRIVEWAY PER FIRE DEPT REQUIREMENTS
G	GREEN WASTE DUMPTSER
GM	GAS METER LOCATION- REF: PLUMBING & GAS UTILITY DRAWINGS
PIV	POST INDICATOR VALVE- REF: CIVIL DRAWINGS
R	RECYCLE DUMPSTER
T	TRASH DUMPSTER
TR	TRANSFORMER

LEGEND

THE PROJECT COMPLIES WITH FIRE APPARATUS ACCESS TO 3- STORY BUILDG

UP TO 150' FIRE HOSE PULL

FIRE LANE - MIN. CLEAR DIMENSION

HAMMERHEAD

FIRE TRUCK TURNING RADIUS

KNOX BOX

EMERGENCY ACCESS SITE PLAN SCHEME Hv5

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA



OPEN SPACE PROVIDED:

PRIVATE OPEN SPACE:	10,992 SF
COMMON OPEN SPACE >20':	18,636 SF
CLUB/FITNESS:	3,728 SF
COMMON OPEN SPACE <20':	12,535 SF
SETBACK BUFFER:	12,259 SF
TOTAL PROV.	58,150 SF (388 SF/DU)

NOTES:
1. STANDARD PARKING SIZE 9'-0"X18'-0"; COMPACT PARKING SIZE 8'-6"X16'-0"
2. STANDARD GARAGE SIZE 10'X20'
3. PRIVATE OPEN SPACE: MINIMUM 7' DIMENSION
4. PARKING TO BE CONVENIENTLY DISTRIBUTED THROUGHOUT THE SITE AND WITHIN 200 FEET OF THE BUILDING/ UNIT THEY SERVE.

1"=40'-0" 0 20' 40' 80' 120'

CONCEPTUAL OPEN SPACE PLAN-RESIDENTIAL

7

OPEN SPACE PLAN-RESIDENTIAL SCHEME Hv5

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

OPEN SPACE - DRAINAGE COURSE

S.F. RESIDENTIAL

COPPER COURT

S.F. RESIDENTIAL

LANCER COURT

ARYA ROAD

CATT ROAD

ARYA ROAD

CLINTON KEITH ROAD

WILDOMAR TRAIL

CLINTON KEITH VILLAGE

7-ELEVEN

BLDG 1

BLDG 2

BLDG 3

BLDG 4

BLDG 5

MAJOR A

SHOPS 1

PAD 1

PAD 2

POOL

CLUBHOUSE

HYDRODYNAMIC SEPARATOR

UNDERGROUND DETENTION CHAMBERS

MODULAR WETLAND UNIT 8'x16'

MODULAR WETLAND UNIT, 8'x8'

OUTLET CONTROL MH

30' EASEMENT TO EVMWD FOR SEWER & WATER MAIN

PROPOSED 30' EASEMENT TO EVMWD FOR SEWER & WATER

20' EASEMENT TO EVMWD FOR WATER MAIN

20' EASEMENT TO EVMWD FOR WATER MAIN

20' EASEMENT TO EVMWD FOR WATER MAIN

20' EASEMENT TO EVMWD FOR WATER MAIN

20' EASEMENT TO EVMWD FOR WATER MAIN

EXISTING HEADWALL TO REMAIN

PROPOSED R/W

POWER POLE TO BE REMOVED

POWER POLE TO BE REMOVED

EX. STREET LIGHT

EX. 54" RCP STORM DRAIN

NEW STREET LIGHT

EX. C.B.

NEW C.B.

NEW STREET LIGHT

EX. STREET LIGHT

EX. 72" RCP STORM DRAIN

NEW STREET LIGHT

24" CMP

50' 0' 50' 100' 150'

GRAPHIC SCALE: 1"=50'

REGISTERED PROFESSIONAL ENGINEER RONALD W. SKLEPKO No. C46216 Exp. 12-31-2022 CIVIL STATE OF CALIFORNIA

DRC Engineering, Inc.
Civil Engineering/Land Surveying/Land Planning

160 S. Old Springs Road
Suite 210
Anaheim Hills, CA 92808
714-685-6860

PREPARED BY: Ronald W. Sklepko
RONALD W. SKLEPKO
6-23-2022
DATE

R.C.E. No. C46216 EXP. 12-31-2022

CONCEPTUAL UTILITY PLAN

TENTATIVE PARCEL MAP NO. 38333

NWC CLINTON KEITH RD. & WILDOMAR TR.
WILDOMAR, CA

DATE: 6-23-2022
JOB #21-994

SHEET C-2

FILENAME: M:\2021\21-994 Sage Investco Wildomar Retail\MA\21994 MA01.dwg, LAST SAVED ON: Apr 13 2022 9:10am PLOTTED BY: BOB, ON: Apr 13 2022 11:01am, CFG:



WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=50'-0" SCALE

0 50 100

NORTH

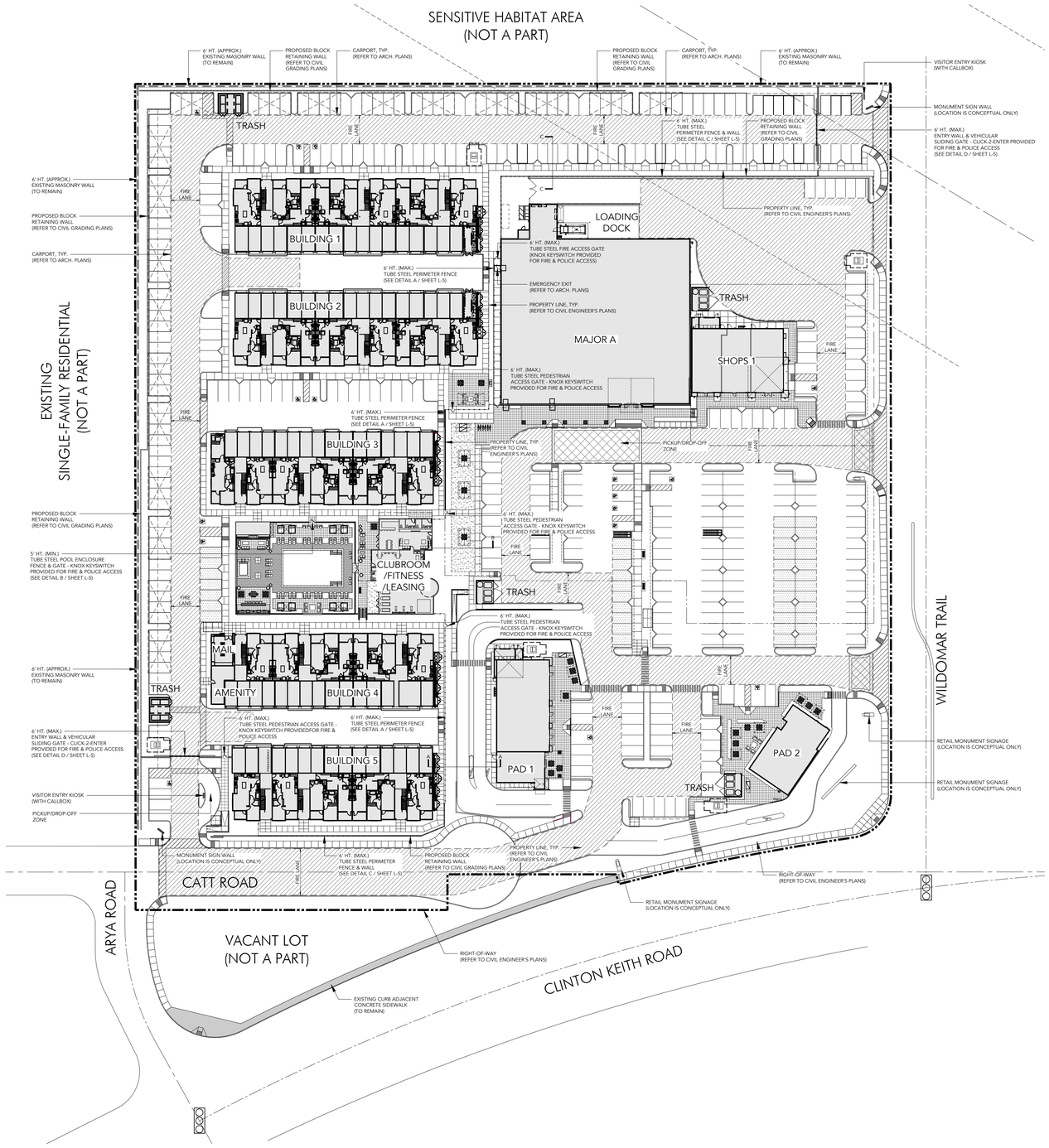
SAGE INVESTCO

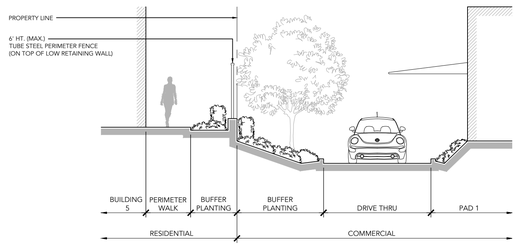
INTRACORP

Building the Extraordinary

URBAN ARENA

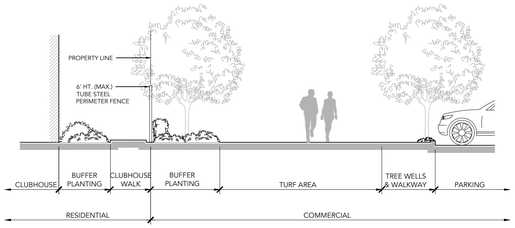
LANDSCAPE ILLUSTRATIVE PLAN | L-1





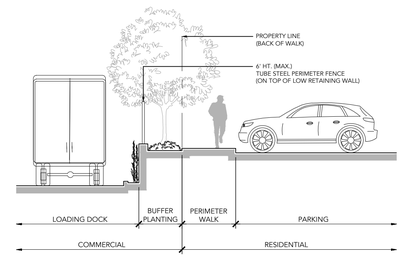
SECTION A-A

SCALE: 1/8" = 1'-0"



SECTION B-B

SCALE: 1/8" = 1'-0"



SECTION C-C

SCALE: 1/8" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=50'-0" SCALE

0 50 100

NORTH

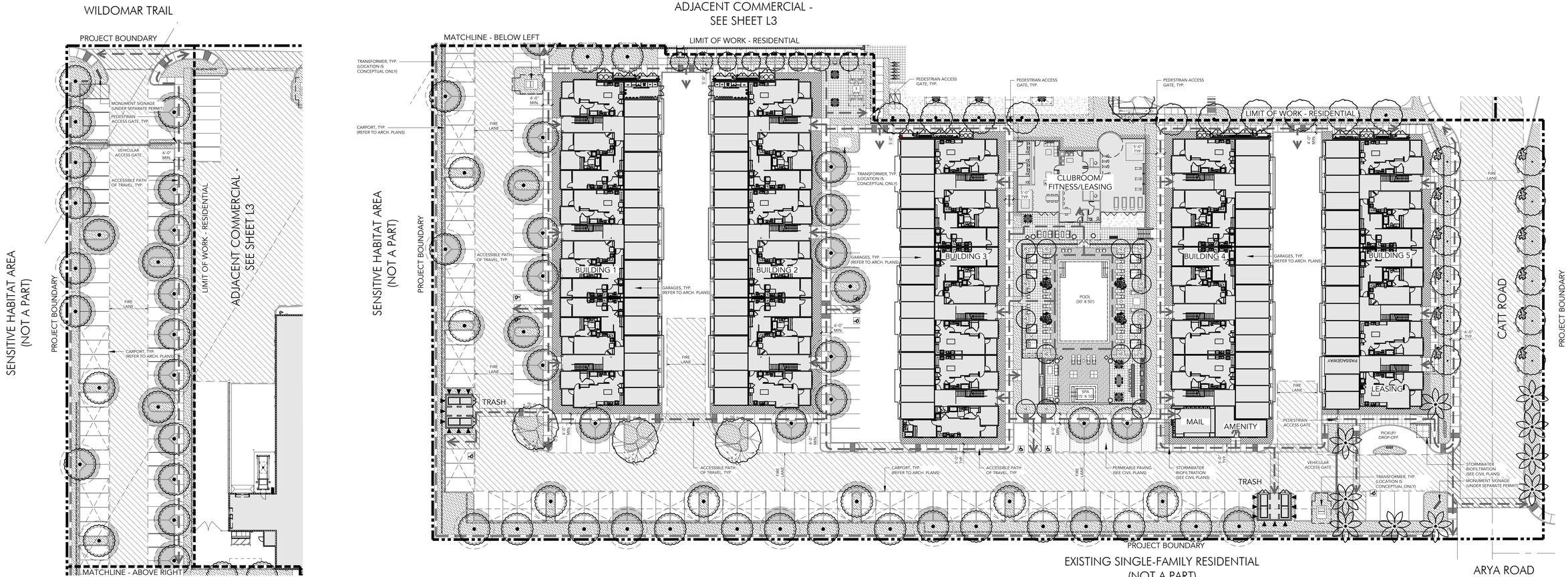
LANDSCAPE OVERALL PLAN | L-2

SAGE INVESTCO

INTRACORP

Building the Extraordinary

URBAN ARENA



LANDSCAPE NOTES

A. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, MATURE SPECIMEN TREES IN THIRTY-SIX INCH (36") AND FORTY-EIGHT INCH (48") BOX TREES SHALL BE PROVIDED FOR LARGE PROJECT IN SUFFICIENT QUANTITY TO PROVIDE VARIETY AND EMPHASIS ON MAIN FOCAL AREAS. SUBJECT TO REVIEW AND APPROVAL OF THE DIRECTOR AND LANDSCAPE CONSULTANT.

B. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT SHALL INCLUDE 3 TO 4 FOOT HIGH LANDSCAPE SCREENING ELEMENTS ALONG ENTIRE PARKING FRONTAGE AT STREETS AND DRIVE AISLES. A COMBINATION OF LANDSCAPE BERMS, GROUPS OF SCREENING SHRUBS, OR ENHANCED WALLS SHALL BE UTILIZED.

C. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL AVOID PLANTS THAT REQUIRE CUTTING BACK TO KEEP THEM WITHIN A SPECIFIC AREA OR AT A TRIMMED HEIGHT. PROVIDED SPACE FOR PLANTS TO GROW TO MATURITY AND KEEP THEIR NATURAL SHAPE.

D. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL SELECT PLANT MATERIALS WITHIN VEHICULAR LINE OF SIGHT IMPACT AREAS LIMITED TO A MAXIMUM OF 30" NATURAL HEIGHT.

E. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT WILL AVOID MONOCULTURE PLANTING, PROVIDE ADDITIONAL PLANT MATERIAL WITH VARYING CHARACTERISTICS. FINAL SHRUB LAYOUT WILL NOT APPEAR AS MASSES, NO SPOTTY PLACEMENT OF SINGULAR SHRUBS.

F. LANDSCAPE ARCHITECT RECOGNIZES THAT THIS PROJECT IS LOCATED WITHIN THE 'VERY HIGH FIRE SEVERITY ZONE' AND WILL BE SUBJECT TO REVIEW BY RIVERSIDE COUNTY OFFICE OF THE FIRE MARSHAL FOR FUEL MODIFICATION REQUIREMENTS.

G. NO COMBUSTIBLE MULCH WILL BE ALLOWED TO BE LOCATED WITHIN 5' OF ANY BUILDING STRUCTURE.

WATER USE CALCULATIONS

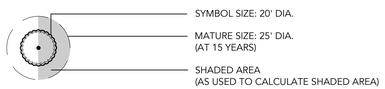
TOTAL LANDSCAPE AREA 29,086 SF

MAXIMUM APPLIED WATER ALLOWANCE (MAWA)
MAWA = (ETO) X (0.7) X (LA) X (0.62) = GALLONS PER YEAR
MAWA = 61.65 X 0.7 X 29,086 X 0.62 = 778,228 GALLONS PER YEAR

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

SHADED PARKING CALCULATIONS

OPEN PARKING	130 SPACES
COVERED PARKING	76 SPACES
TOTAL AREA OF OPEN PARKING SPACES	19,862 SF
REQUIRED PERCENTAGE OF PARKING AREA TO BE SHADED	50% (50+ SPACES)
TOTAL SHADE PROVIDED	10,603 SF
PERCENT OF OPEN PARKING SHADED	53 %



UTILITY COORDINATION

PLEASE NOTE THAT THE LOCATION OF ALL UTILITY STRUCTURES IS CONCEPTUAL ONLY AND WILL BE COORDINATED FURTHER DURING THE DESIGN DEVELOPMENT AND CONSTRUCTION DOCUMENTATION PHASE. CONCEPTUAL LIGHTING PLAN IS PROVIDED WITHIN THE DRAWING SET, REFER TO LIGHTING PLANS.

LANDSCAPE ZONES AND PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
STREET TREES SUCH AS:			
	CERCIDIUM X 'DESERT MUSEUM'	'DESERT MUSEUM' PALO VERDE	L
	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	M
	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	M
	PLATANUS X ACERIFOLIA	LONDON PLANETREE	M
	QUERCUS AGRIFOLIA	COAST LIVE OAK	L
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	M
PARKING TREES SUCH AS:			
	CASSIA LEPTOPHYLLA	GOLD MEDALLION TREE	M
	CUPANIOPSIS ANACARDIOIDES	CARROT WOOD	M
	GLEDITSIA TRIACANTHOS	HONEY LOCUST	L
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	PYRUS KAWAKAMII	EVERGREEN PEAR	M
	RHUS LANCEA	AFRICAN SUMAC	L
	ULMUS PARVIFOLIA	CHINESE ELM	L
ACCENT TREES SUCH AS:			
	ARBUTUS 'MARINA'	'MARINA' STRAWBERRY TREE	M
	BAUHINIA X BLAKEANA	HONG KONG ORCHID TREE	M
	GINKGO BILOBA	MAIDENHAIR TREE	M
	JACARANDA MIMOSIFOLIA	JACARANDA	M
	MAGNOLIA GRANIFLORA	SOUTHERN MAGNOLIA	M
	TABEBUIA CHRYSOTRICHA	GOLDEN TRUMPET TREE	M
	TABEBUIA IMPETIGINOSA	PINK TRUMPET TREE	M
SCREEN TREES SUCH AS:			
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	M
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	M
	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	M
	TIPUANU TIPU	TIPU TREE	M
PALM TREES SUCH AS:			
	ARCHONTOPHOENIX CUNNINGHAMIANA	KING PALM	M
	BRAHEA ARMATA	MEXICAN BLUE PALM	L
	PHOENIX DACTYLIFERA	DATE PALM	L
	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	L
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	L

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
FOUNDATION PLANTS SUCH AS:			
	LIGUSTRUM JAPONICUM 'TEXANUM'	WAX LEAF PRIVET	M
	PITTOSPORUM TOBIRA	MOCK ORANGE	M
	PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	M
	RHAPHIOLEPIS INDICA 'CLARA'	'CLARA' INDIAN HAWTHORN	M
	RHAPHIOLEPIS UMBELLATA 'MINOR'	YEDDO HAWTHORN	M
	XYLOSMA CONGESTA 'COMPACTA'	SHINY XYLOSMA	M
SHRUBS SUCH AS:			
	ALOE X SPECIES	ALOE	L
	AGAVE X SPECIES	AGAVE	L
	ARBUTUS UNEDO 'COMPACTA'	DWARF STRAWBERRY TREE	L
	ASPARAGUS DENSIFLORUS 'MYERS'	FOXTAIL FERN	M
	BOUGAINVILLEA 'LA JOLLA'	'LA JOLLA' BOUGAINVILLEA	L
	CALLISTEMON VIMINALIS 'LITTLE JOHN'	WEEPING BOTTLEBRUSH	M
	CAREX X SPECIES	SEDGE	L
	CARISSA MACROCARPA 'TUTTLE'	'TUTTLE' DWARF NATAL PLUM	M
	CHONDROPETALUM TECTORUM 'EL CAMPO'	'EL CAMPO' SMALL CAPE RUSH	M
	CORDYLINE X SPECIES	CORDYLINE	M
	DASYLIRION SPECIES	DESERT SPOON	L
	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	M
	DIETES GRANDIFLORA	FORTNIGHT LILY	M
	JUNCUS PATENS	CALIFORNIA GRAY RUSH	L
	LEUCADENDRON X 'SAFARI SUNSHINE'	CONEBUSH	M
	LOMANDRA X SPECIES	MAT RUSH	M
	PEDILANTHUS MACROCARPUS	SLIPPER	VL
	PHILODENDRON XANADU	XANADU PHILODENDRON	M
	PHORMIUM 'DARK DELIGHT'	'DARK DELIGHT' PURPLE FLAX	M
	SANSEVIERIA TRIFASCIATA	MOTHER-IN-LAW'S TOUNGE	L
	SESLERIA X 'GREENLEE'	'GREENLEE' MOOR GRASS	M
	STRELITZIA REGINAE	BIRD OF PARADISE	M
	WESTRINGIA FRUTICOSA 'SMOKEY'	'SMOKEY' WESTRINGIA	L
	ZAMIA FURFURACEA	CARDBOARD PALM	M

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
GROUNDCOVERS SUCH AS:			
	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BRUSH	L
	CAREX PRAEGRACILIS	CALIFORNIA FIELD SEDGE	M
	CARISSA MACROCARPA 'GREEN CARPET'	'GREEN CARPET' NATAL PLUM	M
	COTONEASTER SPECIES	COTONEASTER	M
	FESTUCA GLAUCA 'ELIJAH BLUE'	'ELIJAH BLUE' FESCUE	M
	MYOPORUM PARVIFOLIUM	PROSTRATE MYOPORUM	L
	ROSA SPECIES	CARPET ROSE	M
	SENECIO SERPENS	BLUE CHALKSTICKS	L
	TRADESCANTIA PALLIDA 'PURPLE HEART'	PURPLE QUEEN SPIDERWORT	M
VINES SUCH AS:			
	FICUS PUMILA	CLIMBING FIG	M
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	M

GENERAL NOTES

ALL LANDSCAPING, IRRIGATION AND RELATED IMPROVEMENTS SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF WILDOMAR, THE COUNTY OF RIVERSIDE (AS REQUIRED), RIVERSIDE COUNTY FIRE DEPARTMENT AND THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. REFERENCE THE CITY OF WILDOMAR MUNICIPAL CODE CHAPTERS 17.188 (OFF-STREET VEHICULAR PARKING STANDARDS) AND 17.276 (WATER-EFFICIENT LANDSCAPES) AND APPLICABLE SECTIONS OF THE COUNTY OF RIVERSIDE MUNICIPAL CODE (ORDINANCES 348 - LAND USE, 457 - CALIFORNIA BUILDING CODE (EROSION CONTROL), 460 - SUBDIVISION, AND 461 - ROAD IMPROVEMENTS), THE COUNTYWIDE DESIGN STANDARDS & GUIDELINES (JANUARY 2004), GUIDE TO CALIFORNIA FRIENDLY LANDSCAPING (DECEMBER 2009), CALIFORNIA FRIENDLY PLANT LIST (MARCH 2013), FIRE DEPARTMENT REQUIREMENTS, OAK TREE MANAGEMENT GUIDELINES, AND THE REQUIREMENTS OF THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. IRRIGATION SYSTEM SHALL MINIMIZE THE USE OF OVERHEAD SPRAY TYPE SYSTEMS AND INCORPORATE DRIP OR BUBBLER TYPE IRRIGATION SYSTEMS.

ALL LANDSCAPE IMPROVEMENTS DEPICTED IN THIS DRAWING SET ARE TO BE MAINTAINED BY PRIVATE PROPERTY ASSOCIATION(S) OR HOMEOWNERS ASSOCIATION(S).

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=30'-0" SCALE
0 30 60

NORTH

LANDSCAPE RESIDENTIAL ENLARGEMENT PLAN | L-3

SAGE INVESTCO
INTRACORP
Building the Extraordinary
URBAN ARENA

WATER USE CALCULATIONS

TOTAL LANDSCAPE AREA 23,991 SF

MAXIMUM APPLIED WATER ALLOWANCE (MAWA)
MAWA = (ETO) X (0.7) X (LA) X (0.62) = GALLONS PER YEAR
MAWA = 61.65 X 0.7 X 23,991 X 0.62 = 641,905 GALLONS PER YEAR

I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN

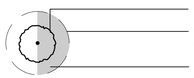
GENERAL NOTES

ALL LANDSCAPING, IRRIGATION AND RELATED IMPROVEMENTS SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF WILDOMAR, THE COUNTY OF RIVERSIDE (AS REQUIRED), RIVERSIDE COUNTY FIRE DEPARTMENT AND THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. REFERENCE THE CITY OF WILDOMAR MUNICIPAL CODE CHAPTERS 17.188 (OFF-STREET VEHICULAR PARKING STANDARDS) AND 17.276 (WATER-EFFICIENT LANDSCAPES) AND APPLICABLE SECTIONS OF THE COUNTY OF RIVERSIDE MUNICIPAL CODE (ORDINANCES 348 - LAND USE, 457 - CALIFORNIA BUILDING CODE (EROSION CONTROL), 460 - SUBDIVISION, AND 461 - ROAD IMPROVEMENTS), THE COUNTYWIDE DESIGN STANDARDS & GUIDELINES (JANUARY 2004), GUIDE TO CALIFORNIA FRIENDLY LANDSCAPING (DECEMBER 2009), CALIFORNIA FRIENDLY PLANT LIST (MARCH 2013), FIRE DEPARTMENT REQUIREMENTS, OAK TREE MANAGEMENT GUIDELINES, AND THE REQUIREMENTS OF THE ELSINORE VALLEY MUNICIPAL WATER DISTRICT. IRRIGATION SYSTEM SHALL MINIMIZE THE USE OF OVERHEAD SPRAY TYPE SYSTEMS AND INCORPORATE DRIP OR BUBBLER TYPE IRRIGATION SYSTEMS.

ALL LANDSCAPE IMPROVEMENTS DEPICTED IN THIS DRAWING SET ARE TO BE MAINTAINED BY PRIVATE PROPERTY ASSOCIATION(S) OR HOMEOWNERS ASSOCIATION(S).

SHADED PARKING CALCULATIONS

PARKING PROVIDED	195 SPACES (OPEN)
TOTAL AREA OF PARKING SPACES	26,669 SF
REQUIRED PERCENTAGE OF PARKING AREA TO BE SHADED	50% (50+ SPACES)
TOTAL SHADE PROVIDED	16,054 SF
PERCENT OF OPEN PARKING SHADED	61 %



BICYCLE PARKING CALCULATIONS

CAR PARKING PROVIDED	195 SPACES
EMPLOYEE SPACES REQUIRED (1 BICYCLE SPACE PER 25 CAR SPACES)	8 BIKE PARKING SPACES (CLASS I LOCKERS OR CLASS II RACKS IN AN ENCLOSED LOCKABLE AREA)
EMPLOYEE SPACES PROVIDED	8 BIKE PARKING SPACES (4 CLASS I LOCKERS - 2 BIKES PER LOCKER)
PATRON & VISITOR SPACES REQUIRED (1 BICYCLE SPACE PER 33 CAR SPACES)	6 BIKE PARKING SPACES (CLASS II RACKS)
PATRON & VISITOR SPACES PROVIDED	6 BIKE PARKING SPACES (3 CLASS II BIKE RACKS - 2 BIKES PER RACK)

INTERIOR PARKING LANDSCAPE

PARKING PROVIDED	195 SPACES
TOTAL AREA OF PARKING SPACES	26,669 SF
REQUIRED PERCENTAGE TO BE LANDSCAPED	10% (50+ SPACES)
TOTAL INTERIOR PARKING LANDSCAPE	3,606 SF
PERCENT OF INTERIOR PARKING LANDSCAPE PROVIDED	13 %

UTILITY COORDINATION

PLEASE NOTE THAT THE LOCATION OF ALL UTILITY STRUCTURES IS CONCEPTUAL ONLY AND WILL BE COORDINATED FURTHER DURING THE DESIGN DEVELOPMENT AND CONSTRUCTION DOCUMENTATION PHASE. CONCEPTUAL LIGHTING PLAN IS PROVIDED WITHIN THE DRAWING SET, REFER TO LIGHTING PLANS.

LANDSCAPE NOTES

A. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, MATURE SPECIMEN TREES IN THIRTY-SIX INCH (36") AND FORTY-EIGHT INCH (48") BOX TREES SHALL BE PROVIDED FOR LARGE PROJECT IN SUFFICIENT QUANTITY TO PROVIDE VARIETY AND EMPHASIS ON MAIN FOCAL AREAS. SUBJECT TO REVIEW AND APPROVAL OF THE DIRECTOR AND LANDSCAPE CONSULTANT.

B. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT SHALL INCLUDE 3 TO 4 FOOT HIGH LANDSCAPE SCREENING ELEMENTS ALONG ENTIRE PARKING FRONTAGE AT STREETS AND DRIVE AISLES. A COMBINATION OF LANDSCAPE BERMS, GROUPS OF SCREENING SHRUBS OR ENHANCED WALLS SHALL BE UTILIZED.

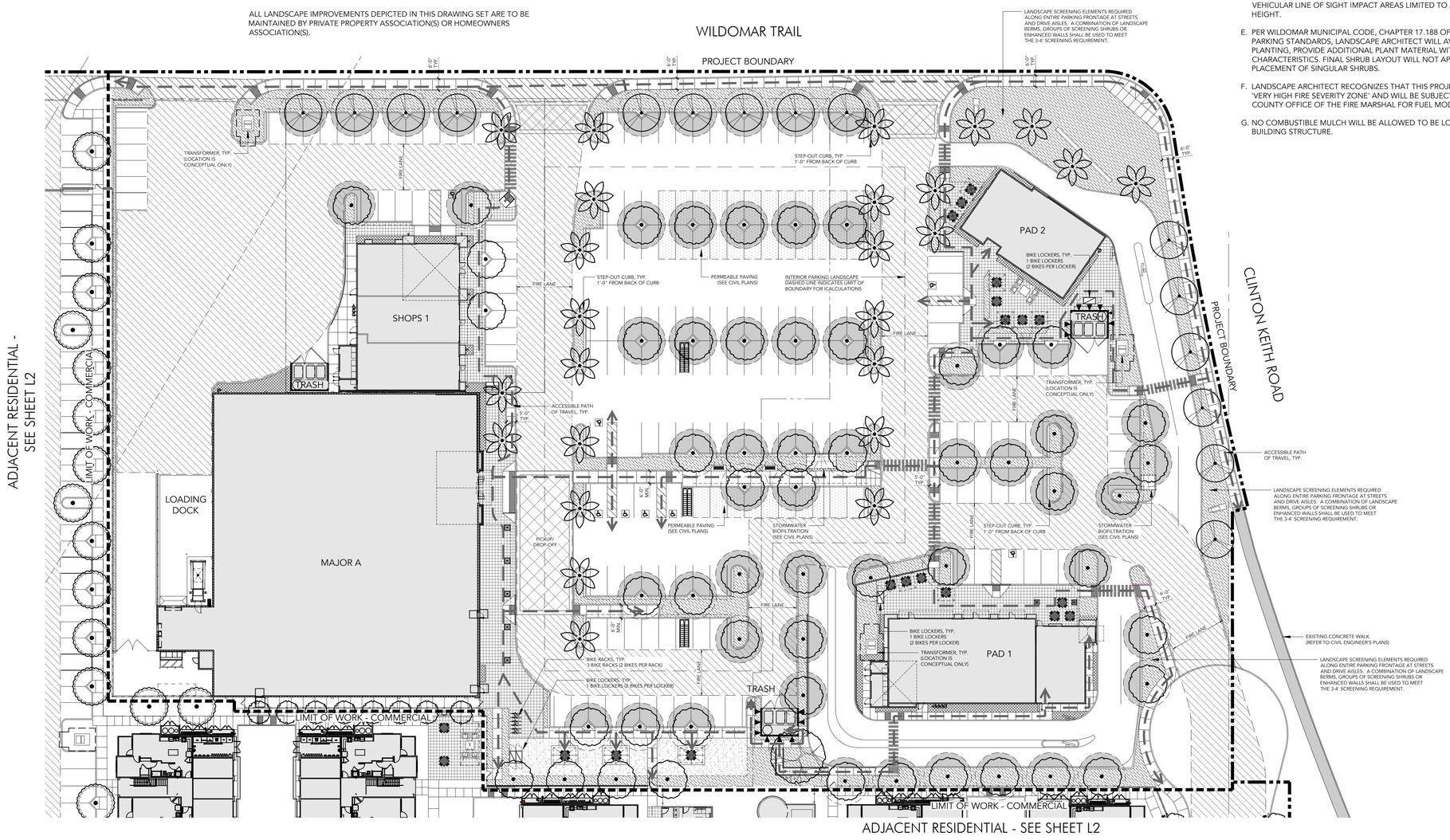
C. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL AVOID PLANTS THAT REQUIRE CUTTING BACK TO KEEP THEM WITHIN A SPECIFIC AREA OR AT A TRIMMED HEIGHT. PROVIDED SPACE FOR PLANTS TO GROW TO MATURITY AND KEEP THEIR NATURAL SHAPE.

D. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE WILL SELECT PLANT MATERIALS WITHIN VEHICULAR LINE OF SIGHT IMPACT AREAS LIMITED TO A MAXIMUM OF 30" NATURAL HEIGHT.

E. PER WILDOMAR MUNICIPAL CODE, CHAPTER 17.188 OFF-STREET VEHICULAR PARKING STANDARDS, LANDSCAPE ARCHITECT WILL AVOID MONOCULTURE PLANTING, PROVIDE ADDITIONAL PLANT MATERIAL WITH VARYING CHARACTERISTICS. FINAL SHRUB LAYOUT WILL NOT APPEAR AS MASSES, NO SPOTTY PLACEMENT OF SINGULAR SHRUBS.

F. LANDSCAPE ARCHITECT RECOGNIZES THAT THIS PROJECT IS LOCATED WITHIN THE 'VERY HIGH FIRE SEVERITY ZONE' AND WILL BE SUBJECT TO REVIEW BY RIVERSIDE COUNTY OFFICE OF THE FIRE MARSHAL FOR FUEL MODIFICATION REQUIREMENTS.

G. NO COMBUSTIBLE MULCH WILL BE ALLOWED TO BE LOCATED WITHIN 5' OF ANY BUILDING STRUCTURE.



LANDSCAPE ZONES AND PLANT PALETTE

SYMBOL	BOTANICAL NAME	COMMON NAME	WUCOLS
STREET TREES SUCH AS:			
	CERCIDIUM X 'DESERT MUSEUM'	'DESERT MUSEUM' PALO VERDE	L
	LIQUIDAMBAR STYRACIFLUA	SWEET GUM	M
	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	M
	PLATANUS X ACERIFOLIA	LONDON PLANETREE	M
	QUERCUS AGRIFOLIA	COAST LIVE OAK	L
	QUERCUS VIRGINIANA	SOUTHERN LIVE OAK	M
PARKING TREES SUCH AS:			
	CASSIA LEPTOPHYLLA	GOLD MEDALLION TREE	M
	CUPANIOPSIS ANACARDIOIDES	CARROT WOOD	M
	GLEDITSIA TRIACANTHOS	HONEY LOCUST	L
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	PYRUS KAWAKAMII	EVERGREEN PEAR	M
	RHUS LANCEA	AFRICAN SUMAC	L
	ULMUS PARVIFOLIA	CHINESE ELM	L
ACCENT TREES SUCH AS:			
	ARBUTUS 'MARINA'	'MARINA' STRAWBERRY TREE	M
	BAUHINIA X BLAKEANA	HONG KONG ORCHID TREE	M
	GINKGO BILOBA	MAIDENHAIR TREE	M
	JACARANDA MIMOSIFOLIA	JACARANDA	M
	MAGNOLIA GRANIFLORA	SOUTHERN MAGNOLIA	M
	TABEBUIA CHRYSOTRICHA	GOLDEN TRUMPET TREE	M
	TABEBUIA IMPETIGINOSA	PINK TRUMPET TREE	M
SCREEN TREES SUCH AS:			
	LAGERSTROEMIA INDICA	CRAPE MYRTLE	M
	LOPHOSTEMON CONFERTUS	BRISBANE BOX	M
	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	M
	PRUNUS CAROLINIANA	CAROLINA LAUREL CHERRY	M
	TIPUANU TIPU	TIPU TREE	M
PALM TREES SUCH AS:			
	ARCHONTOPHOENIX CUNNINGHAMIANA	KING PALM	M
	BRAHEA ARMATA	MEXICAN BLUE PALM	L
	PHOENIX DACTYLIFERA	DATE PALM	L
	WASHINGTONIA FILIFERA	CALIFORNIA FAN PALM	L
	WASHINGTONIA ROBUSTA	MEXICAN FAN PALM	L
FOUNDATION PLANTS SUCH AS:			
	LIGUSTRUM JAPONICUM 'TEXANUM'	WAX LEAF PRIVET	M
	PITTOSPORUM TOBIRA	MOCK ORANGE	M
	PITTOSPORUM TOBIRA 'VARIEGATA'	VARIEGATED MOCK ORANGE	M
	RHAPHIOLEPIS INDICA 'CLARA'	'CLARA' INDIAN HAWTHORN	M
	RHAPHIOLEPIS UMBELLATA 'MINOR'	YEDDO HAWTHORN	M
	XYLOSMA CONGESTA 'COMPACTA'	SHINY XYLOSMA	M
SHRUBS SUCH AS:			
	ALOE X SPECIES	ALOE	L
	AGAVE X SPECIES	AGAVE	L
	ARBUTUS UNEDO 'COMPACTA'	DWARF STRAWBERRY TREE	L
	ASPARAGUS DENSIFLORUS 'MYERS'	FOXTAIL FERN	M
	BOUGAINVILLEA 'LA JOLLA'	'LA JOLLA' BOUGAINVILLEA	L
	CALLISTEMON VIMINALIS 'LITTLE JOHN'	WEEPING BOTTLEBRUSH	M
	CAREX X SPECIES	SEDGE	L
	CARISSA MACROCARPA 'TUTTLE'	'TUTTLE' DWARF NATAL PLUM	M
	CHONDROPETALUM TECTORUM 'EL CAMPO'	'EL CAMPO' SMALL CAPE RUSH	M
	CORDYLINE X SPECIES	CORDYLINE	M
	DASYLIRION SPECIES	DESERT SPOON	L
	DIANELLA TASMANICA 'VARIEGATA'	VARIEGATED FLAX LILY	M
	DIETES GRANDIFLORA	FORTNIGHT LILY	M
	JUNCUS PATENS	CALIFORNIA GRAY RUSH	L
	LEUCADENDRON X 'SAFARI SUNSHINE'	CONEBUSH	M
	LOMANDRA X SPECIES	MAT RUSH	M
	PEDILANTHUS MACROCARPUS	SLIPPER	VL
	PHILODENDRON XANADU	XANADU PHILODENDRON	M
	PHORMIUM 'DARK DELIGHT'	'DARK DELIGHT' PURPLE FLAX	M
	SANSEVIERIA TRIFASCIATA	MOTHER-IN-LAW'S TOUNGE	L
	SESLERIA X 'GREENLEE'	'GREENLEE' MOOR GRASS	M
	STRELITZIA REGINAE	BIRD OF PARADISE	M
	WESTRINGIA FRUTICOSA 'SMOKEY'	'SMOKEY' WESTRINGIA	L
	ZAMIA FURFURACEA	CARDBOARD PALM	M
GROUNDCOVERS SUCH AS:			
	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BRUSH	L
	CAREX PRAEGRACILIS	CALIFORNIA FIELD SEDGE	M
	CARISSA MACROCARPA 'GREEN CARPET'	'GREEN CARPET' NATAL PLUM	M
	COTONEASTER SPECIES	COTONEASTER	M
	FESTUCA GLAUCA 'ELIJAH BLUE'	'ELIJAH BLUE' FESCUE	M
	MYOPORUM PARVIFOLIUM	PROSTRATE MYOPORUM	L
	ROSA SPECIES	CARPET ROSE	M
	SENECIO SERPENS	BLUE CHALKSTICKS	L
	TRADESCANTIA PALLIDA 'PURPLE HEART'	PURPLE QUEEN SPIDERWORT	M
VINES SUCH AS:			
	FICUS PUMILA	CLIMBING FIG	M
	PARTHENOCISSUS TRICUSPIDATA	BOSTON IVY	M

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

1"=30'-0" SCALE 0 30 60

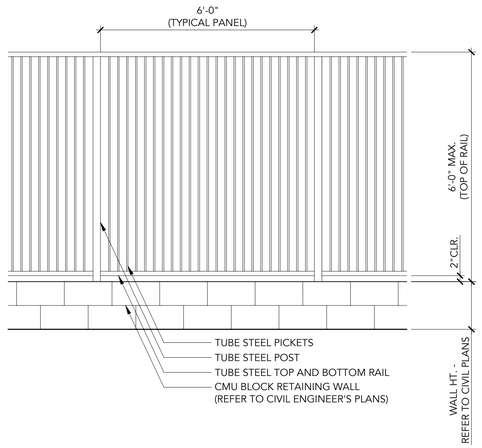
NORTH

SAGE INVESTCO

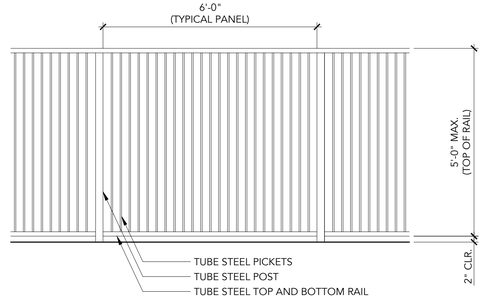
INTRACORP Building the Extraordinary

URBAN ARENA

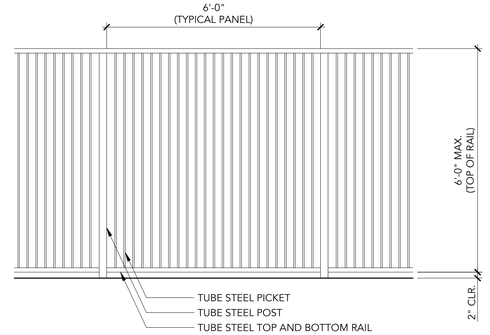
LANDSCAPE COMMERCIAL ENLARGEMENT PLAN | L-4



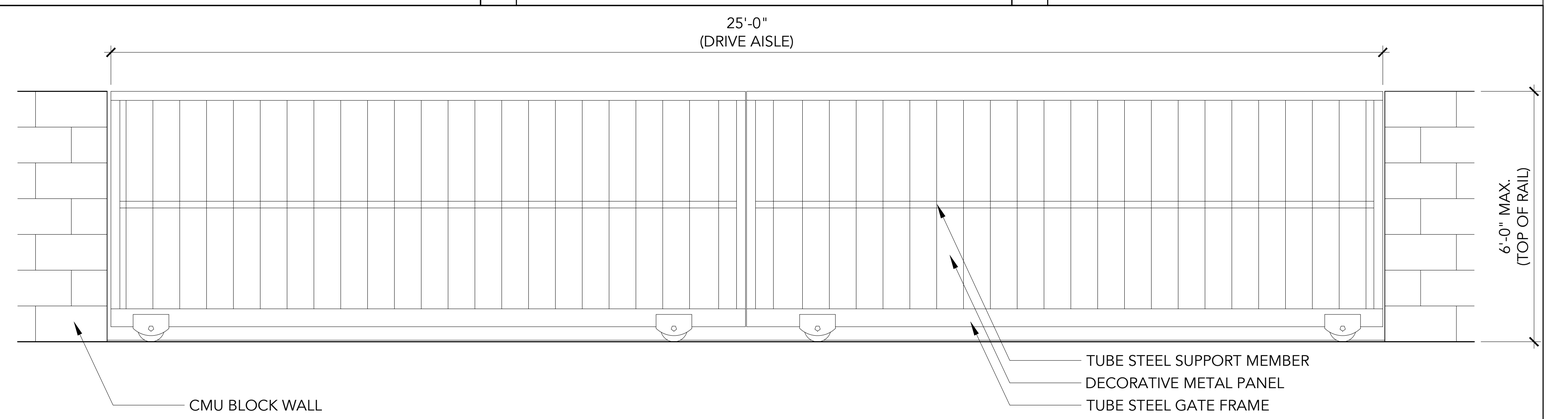
C | TUBE STEEL PERIMETER FENCE & WALL P-21.21.142-02 1/2" = 1'-0"



B | TUBE STEEL POOL ENCLOSURE FENCE P-21.21.142-03 1/2" = 1'-0"



A | TUBE STEEL PERIMETER FENCE P-21.21.142-01 1/2" = 1'-0"



D | ENTRY WALL AND VEHICULAR GATE P-21.21.142-04 3/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR | CALIFORNIA

INTRACORP SW, LLC | 21-142

DATE 06 | 23 | 22

LANDSCAPE CONCEPTUAL DETAILS | L-5

SAGE INVESTCO

INTRACORP
Building the Extraordinary

URBAN ARENA

SITE LIGHTING FIXTURE SCHEDULE

TYPE	SYMBOL	MANUFACTURER SPECS	DESCRIPTION	MOUNTING	LAMP INFO	LIGHTING CUTOFF TYPES PER CITY OF WILDOMAR MC CH#8.64	MAX LUMEN ALLOWED PER CITY OF WILDOMAR MC CH#8.64	LUMEN FACTOR PER CITY OF WILDOMAR MC CH#8.64	TOTAL COUNT RESIDENTIAL	TOTAL LUMENS RESIDENTIAL	TOTAL COUNT COMMERCIAL	TOTAL LUMENS COMMERCIAL
S1A		CYCLONE LIGHTING # CY55P1B-FGC-3MHS-30W-3K-BK-TX (1)M230 ARM	POLE MOUNTED AREA LIGHTING – SINGLE TYPE 3 MEDIUM OPTICS WITH HOUSESHIELD TEXTURED BLACK	14'-0" AFG TO TOP OF FIXTURE –	30W LED 3000K 4300 LUMENS	FULL CUT-OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090-1(A)(1) 4300 LUMENS	13	55900	9	38700
S1B		CYCLONE LIGHTING # CY55P1B-FGC-3MHS-30W-3K-BK-TX (2)M230 ARMS @180°	POLE MOUNTED AREA LIGHTING – DOUBLE TYPE 3 MEDIUM OPTICS WITH HOUSESHIELD TEXTURED BLACK	14'-0" AFG TO TOP OF FIXTURE –	30W LED 3000K/HEAD 4300 LUMENS/HEAD	FULL CUT-OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090-1(A)(1) 8600 LUMENS	6	51600	27	232200
S1C		CYCLONE LIGHTING # CY55P1B-FGC-3MHS-30W-3K-BK-TX (1)M230 ARM	POLE MOUNTED AREA LIGHTING – SINGLE TYPE 3 MEDIUM OPTICS WITH HOUSESHIELD TEXTURED BLACK	12'-0" AFG TO TOP OF FIXTURE –	30W LED 3000K 4300 LUMENS	FULL CUT-OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090-1(A)(1) 4300 LUMENS	4	17200	0	0
S2		CYCLONE LIGHTING # CBM1105C-FGF-3-15W-3K-BB1-BK-TX	PEDESTRIAN DECORATIVE 44"H BOLLARD TYPE 3 OPTICS TEXTURED BLACK	GROUND MOUNT –	16W LED 3000K 858 LUMENS	FULL CUT-OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090-1(A)(1) 858 LUMENS	14	12012	0	0
S3		LITHONIA LIGHTING # CLX-LED-24-1500-HEF-L-MVOLT-3000K	UNDER CANOPY LED 24"L STRIP WHITE	SURFACE MOUNTED UNDER CANOPY CEILING TRASH ENCLOSURES	10.4W LED 3000K 1220 LUMENS	FULL CUT-OFF FULLY SHIELDED	MAX N/A	0 % PER 8.64.090-1(A)(3) 0 LUMENS	2	EXEMPT	6	EXEMPT
S4		LITHONIA LIGHTING # DSXSC-LED-10C-700-30K-T5W-MVOLT	UNDER CANOPY LED STRIP TYPE 5 OPTICS NATURAL ALUMINUM	SURFACE MOUNTED UNDER CANOPY CEILING CARPORTS	26W LED 3000K 2570 LUMENS	FULL CUT-OFF FULLY SHIELDED	MAX N/A	0 % PER 8.64.090-1(A)(3) 0 LUMENS	19	EXEMPT	0	EXEMPT
S5A		LITHONIA LIGHTING # WDGE1-LED-P1-30K-VF	ARCHITECTURAL WALL SCONCE TYPE VISUAL COMFORT FORWARD THROW TEXTURED BLACK	9'-0" AFG TO BOTTOM OF FIXTURE (ABOVE EXTERIOR DOORS) 11'-0" AFG TO BOTTOM OF FIXTURE (AT GARAGE ALLEYS)	10W LED 3000K 1161 LUMENS	FULL CUT-OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090-1(A)(1) 1161 LUMENS	41	47601	8	9288
S5B		LITHONIA LIGHTING # WDGE2-LED-P3-30K-VF	ARCHITECTURAL WALL SCONCE TYPE VISUAL COMFORT FORWARD THROW TEXTURED BLACK	16'-0" AFG TO BOTTOM OF FIXTURE –	23W LED 3000K 3015 LUMENS	FULL CUT-OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090-1(A)(1) 3015 LUMENS	0	0	9	27135
S6A		ANP LIGHTING # W520-M009LDD-W-30K-72-E8	DECORATIVE 20" DIAMETER RLM SCONCE WITH 32"X12" ARM TEXTURED BLACK	9'-0" AFG TO BOTTOM OF FIXTURE (MINIMUM TO AFG)	9W LED 3000K 850 LUMENS	FULL CUT-OFF FULLY SHIELDED	MAX N/A	100% PER 8.64.090-1(A)(1) 850 LUMENS	52	44200	34	28900
S6B		ANP LIGHTING # W520-M009LDD-W-30K-72-SLC	DECORATIVE 20" DIAMETER RLM PENDANT CORD OR PENDANT HUNG TEXTURED BLACK	9'-0" AFG TO BOTTOM OF FIXTURE (MINIMUM TO AFG)	9W LED 3000K 850 LUMENS	FULL CUT-OFF FULLY SHIELDED	MAX N/A	0 % PER 8.64.090-1(A)(3) 0 LUMENS	9	EXEMPT	22	EXEMPT
S7		PRIMUS LIGHTING # DSW-24-120-DSC7-PLED-S14F-27K	FESTOON LIGHTS WITH 24" SPACING STRING-HUNG	10'-0" DECORATIVE STRING HUNG (MINIMUM TO AFG)	1.5W LED 2700K 150 LUMENS	UNSHIELDED DECORATIVE	3000 LUMENS OR BELOW ALLOWED PER FIXTURE	100% PER 8.64.090-1(A)(4) 150 LUMENS	52	7800	0	0
S8		HYDREL LIGHTING # HSL13-6INCH-LED-3000K-MVOLT-L	6" WALL MOUNTED STEP LIGHTS BLACK	18" AFG TO BOTTOM OF FIXTURE (MINIMUM TO AFG)	5W LED 3000K 194 LUMENS	PARTIAL UNSHIELDED LOW-LEVEL	3000 LUMENS OR BELOW ALLOWED PER FIXTURE	100% PER 8.64.090-1(A)(4) 194 LUMENS	3	582	3	582
S9		ACCLAIM LIGHTING # LNE#1-COL#C-OPT#T-3K-(GROUND)	12" LINEAR WALL WASH BLACK	GROUND MOUNT –	12W LED 3000K 788 LUMENS	PARTIAL UNSHIELDED LOW-LEVEL	3000 LUMENS OR BELOW ALLOWED PER FIXTURE	100% PER 8.64.090-1(A)(4) 788 LUMENS	2	1576	9	7092

SITE LIGHTING PROJECT SUMMARY

COMMERCIAL PARCEL

PROJECT SITE ACREAGE
= 4.63 ACRES

PROJECT SITE OCCUPANCY / ZONING
= C-P-S, SCENIC HIGHWAY COMMERCIAL

LUMINAIRE CUT-OFF TYPES USED:
= FULLY SHIELDED FIXTURES – GENERAL USE
= UNSHIELDED FIXTURES – DECORATIVE AND AMBIANCE USE

LUMEN ALLOWANCE PER ACRE
PER CITY OF WILDOMAR MUNICIPAL CODE CHAPTER 8, TABLE 8.64.090-1
COMMERCIAL PARCEL: (OPTION 3)
= 175000 LUMENS OF COMBINED SHIELDED AND UNSHIELDED
= 11000 LUMENS OF UNSHIELDED

PROJECT SITE TOTAL LUMEN ALLOWANCE
= 810250 LUMENS OF COMBINED (175000L X 4.63 ACRES)
= 49280 LUMENS OF UNSHIELDED (50930L X 4.63 ACRES)

TOTAL LUMENS IN PROJECT OF COMBINED FIXTURES
PER FACTOR CALCULATIONS SHOWN ON FIXTURE SCHEDULE
= 343897 LUMENS (336223L, SHIELDED + 7674L, UNSHIELED)

TOTAL LUMENS IN PROJECT OF UNSHIELDED FIXTURES
PER FACTOR CALCLUATIONS SHOWN ON FIXTURE SCHEDULE
= 7674 LUMENS

RESIDENTIAL PARCEL

PROJECT SITE ACREAGE
= 4.48 ACRES

PROJECT SITE OCCUPANCY / ZONING
= R-2, RESIDENTIAL

LUMINAIRE CUT-OFF TYPES USED:
= FULLY SHIELDED FIXTURES – GENERAL USE
= UNSHIELDED FIXTURES – DECORATIVE AND AMBIANCE USE

LUMEN ALLOWANCE PER ACRE
PER CITY OF WILDOMAR MUNICIPAL CODE CHAPTER 8, TABLE 8.64.090-1
RESIDENTIAL PARCEL:
= 55000 LUMENS OF COMBINED SHIELDED AND UNSHIELDED
= 11000 LUMENS OF UNSHIELDED

PROJECT SITE TOTAL LUMEN ALLOWANCE
= 246400 LUMENS OF COMBINED (55000L X 4.48 ACRES)
= 49280 LUMENS OF UNSHIELDED (11000L X 4.48 ACRES)

TOTAL LUMENS IN PROJECT OF COMBINED FIXTURES
PER FACTOR CALCULATIONS SHOWN ON FIXTURE SCHEDULE
= 238471 LUMENS (228513L + 9958L, UNSHIELDED)

TOTAL LUMENS IN PROJECT OF UNSHIELDED FIXTURES
PER FACTOR CALCLUATIONS SHOWN ON FIXTURE SCHEDULE
= 9958 LUMENS

NOTE:
ALL EXTERIOR LIGHTING CONTROLS SHALL BE COMPLIANT PER CITY OF WILDOMAR MUNICIPAL CODE: TITLE 8 / CHAPTER 8.64

PHOTOMETRICS STATISTICS - RESIDENTIAL

AREA	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
RESIDENTIAL – OVERHEAD SHED AT PATIO MAJOR A	⋇	2.9 fc	3.6 fc	2.3 fc	1.6:1	1.3:1
RESIDENTIAL – PARKING AMENITIES	⋇	1.1 fc	1.6 fc	0.6 fc	2.7:1	1.8:1
RESIDENTIAL – PARKING CARPORT – TYP	⋇	1.2 fc	1.5 fc	0.9 fc	1.7:1	1.3:1
RESIDENTIAL – PARKING CENTER	⋇	1.1 fc	2.2 fc	0.5 fc	4.4:1	2.2:1
RESIDENTIAL – PARKING NORTH	⋇	1.0 fc	2.4 fc	0.4 fc	6.0:1	2.5:1
RESIDENTIAL – PARKING SOUTHWEST FRONT	⋇	1.3 fc	1.7 fc	0.9 fc	1.9:1	1.4:1
RESIDENTIAL – PARKING WEST	⋇	1.0 fc	1.4 fc	0.5 fc	2.8:1	2.0:1
RESIDENTIAL – PEDESTRIAN TYPICAL	+	1.5 fc	6.0 fc	0.2 fc	30.0:1	7.5:1
RESIDENTIAL – POOL DECK BBQ	⋇	14.9 fc	19.7 fc	4.9 fc	4.0:1	3.0:1
RESIDENTIAL – POOL DECK AREA	⋇	2.1 fc	4.7 fc	1.0 fc	4.7:1	2.1:1
RESIDENTIAL – TRASH NORTH	⋇	1.7 fc	3.1 fc	0.4 fc	7.8:1	4.3:1
RESIDENTIAL – TRASH SOUTH	⋇	2.9 fc	5.2 fc	1.4 fc	3.7:1	2.1:1

PHOTOMETRICS STATISTICS - COMPOSITE

SITE BOUNDARY – EAST	+	0.6 fc	1.3 fc	0.1 fc	13.0:1	6.0:1
SITE BOUNDARY – NORTH	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A
SITE BOUNDARY – SOUTH	+	0.4 fc	1.1 fc	0.0 fc	N/A	N/A
SITE BOUNDARY – WEST	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A

PHOTOMETRICS STATISTICS - COMMERICIAL

AREA	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
COMMERCIAL – DRIVE THRU LANE PAD 1	⋇	1.3 fc	4.6 fc	0.4 fc	11.5:1	3.3:1
COMMERCIAL – DRIVE THRU LANE PAD 2	⋇	1.7 fc	5.9 fc	0.3 fc	19.7:1	5.7:1
COMMERCIAL – DRIVE THRU WINDOW PAD 1	+	13.3 fc	15.9 fc	11.9 fc	1.3:1	1.1:1
COMMERCIAL – DRIVE THRU WINDOW PAD 2	+	13.4 fc	15.6 fc	12.1 fc	1.3:1	1.1:1
COMMERCIAL – OVERHEAD WAITING SHEDS	⋇	2.2 fc	3.1 fc	1.3 fc	2.4:1	1.7:1
COMMERCIAL – PARKING CENTER	⋇	1.4 fc	3.3 fc	0.3 fc	11.0:1	4.7:1
COMMERCIAL – PARKING NORTHEAST	⋇	1.5 fc	3.7 fc	0.4 fc	9.3:1	3.8:1
COMMERCIAL – PARKING SOUTHEAST	⋇	1.3 fc	2.6 fc	0.3 fc	8.7:1	4.3:1
COMMERCIAL – PATIO PAD 1	⋇	5.6 fc	7.9 fc	3.7 fc	2.1:1	1.5:1
COMMERCIAL – PATIO PAD 2	⋇	2.3 fc	6.9 fc	1.0 fc	6.9:1	2.3:1
COMMERCIAL – PEDESTRIAN TYPICAL	+	1.3 fc	5.5 fc	0.3 fc	18.3:1	4.3:1
COMMERCIAL – TRASH MAJOR A	⋇	3.5 fc	5.9 fc	1.6 fc	3.7:1	2.2:1
COMMERCIAL – TRASH PAD 1	⋇	3.7 fc	5.5 fc	2.2 fc	2.5:1	1.7:1
COMMERCIAL – TRASH PAD 2	⋇	3.3 fc	5.1 fc	1.5 fc	3.4:1	2.2:1

SITE LIGHTING SHEET INDEX

E-0.0 SITE LIGHTING COVER SHEET
E-1.0 SITE LIGHTING LAYOUT – PARTIAL AREA NORTH
E-1.1 SITE LIGHTING LAYOUT – PARTIAL AREA SOUTH
E-2.0 SITE LIGHTING PHOTOMETRICS – PARTIAL AREA NORTH
E-2.1 SITE LIGHTING PHOTOMETRICS – PARTIAL AREA SOUTH
E-3.0 SITE LIGHTING FIXTURE CUTSHEETS
E-3.1 SITE LIGHTING FIXTURE CUTSHEETS
E-3.2 SITE LIGHTING FIXTURE CUTSHEETS

E0.0

REGISTERED PROFESSIONAL ENGINEER
ROY L. LOPEZ
No. 1344
Exp. 06/30/22
ELECTRICAL
STATE OF CALIFORNIA

SALASO'BRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING COVER SHEET

NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

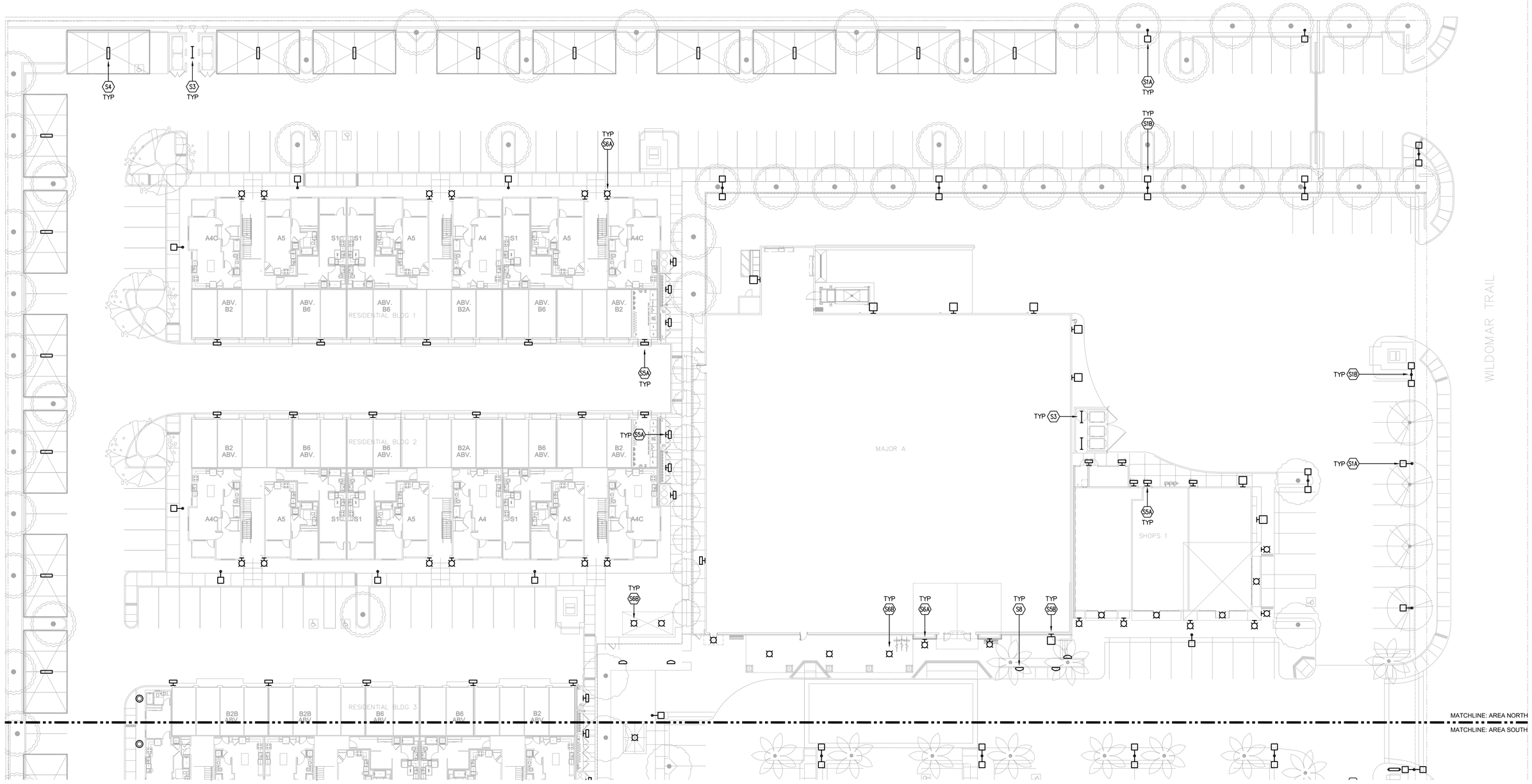
GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E00.dwg 04/19/2022 15:48
Last plotted by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E00.dwg 04/19/2022 15:53



Last saved by ramon.benjamin E10 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10,E11.dwg 04/19/2022 15:46
Last plotted by ramon.benjamin E10 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10,E11.dwg 04/19/2022 15:51

1"=20'-0" 0 10' 20' 40' 60'

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

E1.0

SITE LIGHTING LAYOUT
PARTIAL AREA - NORTH

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

REGISTERED PROFESSIONAL ENGINEER
ROY LOPEZ
ELECTRICAL
STATE OF CALIFORNIA

SALASOBRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553

#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com

DP | JVP | RB

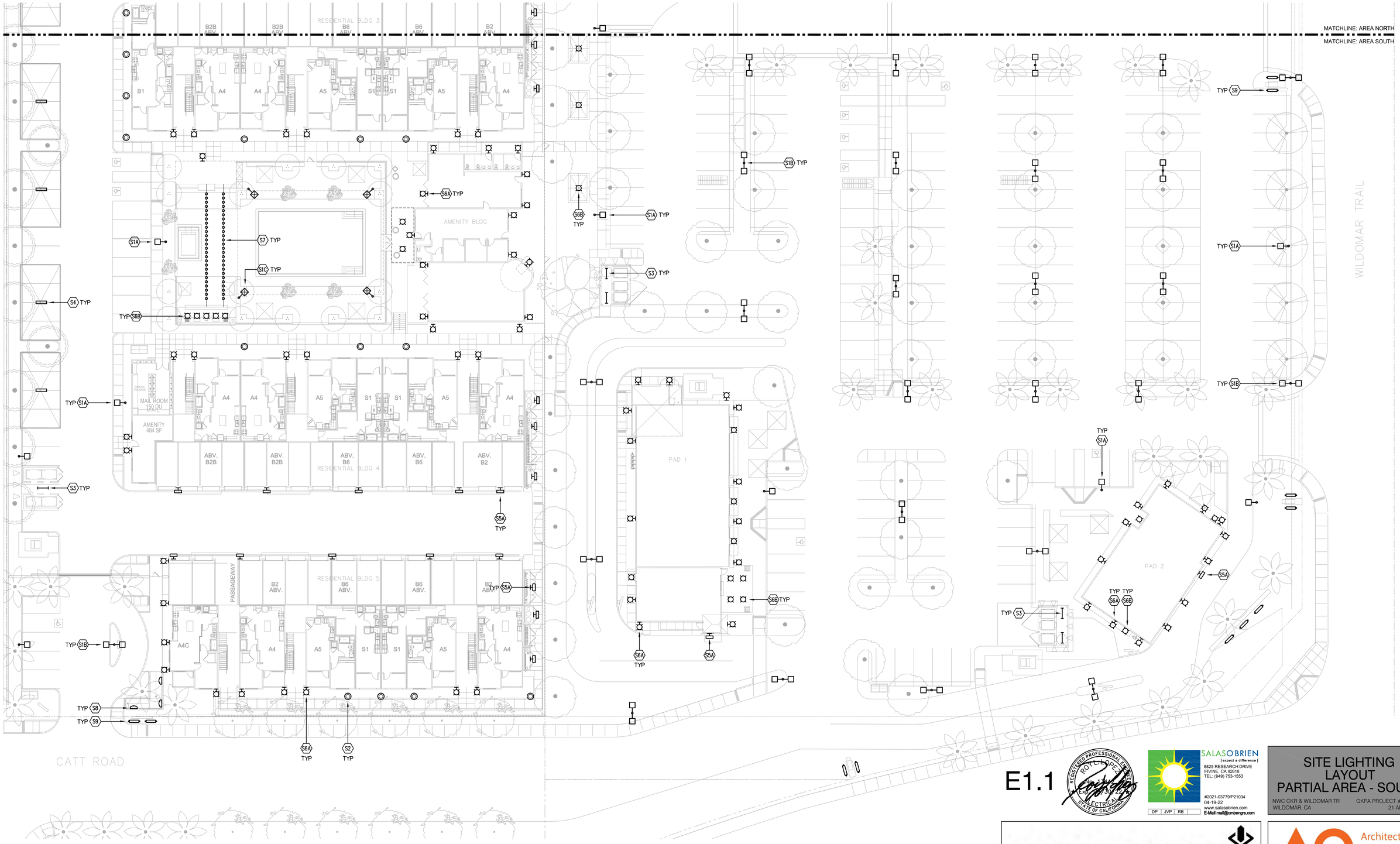
INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9660

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021



E1.1

SALASO'BRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP JVP RB

SITE LIGHTING LAYOUT
PARTIAL AREA - SOUTH
NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

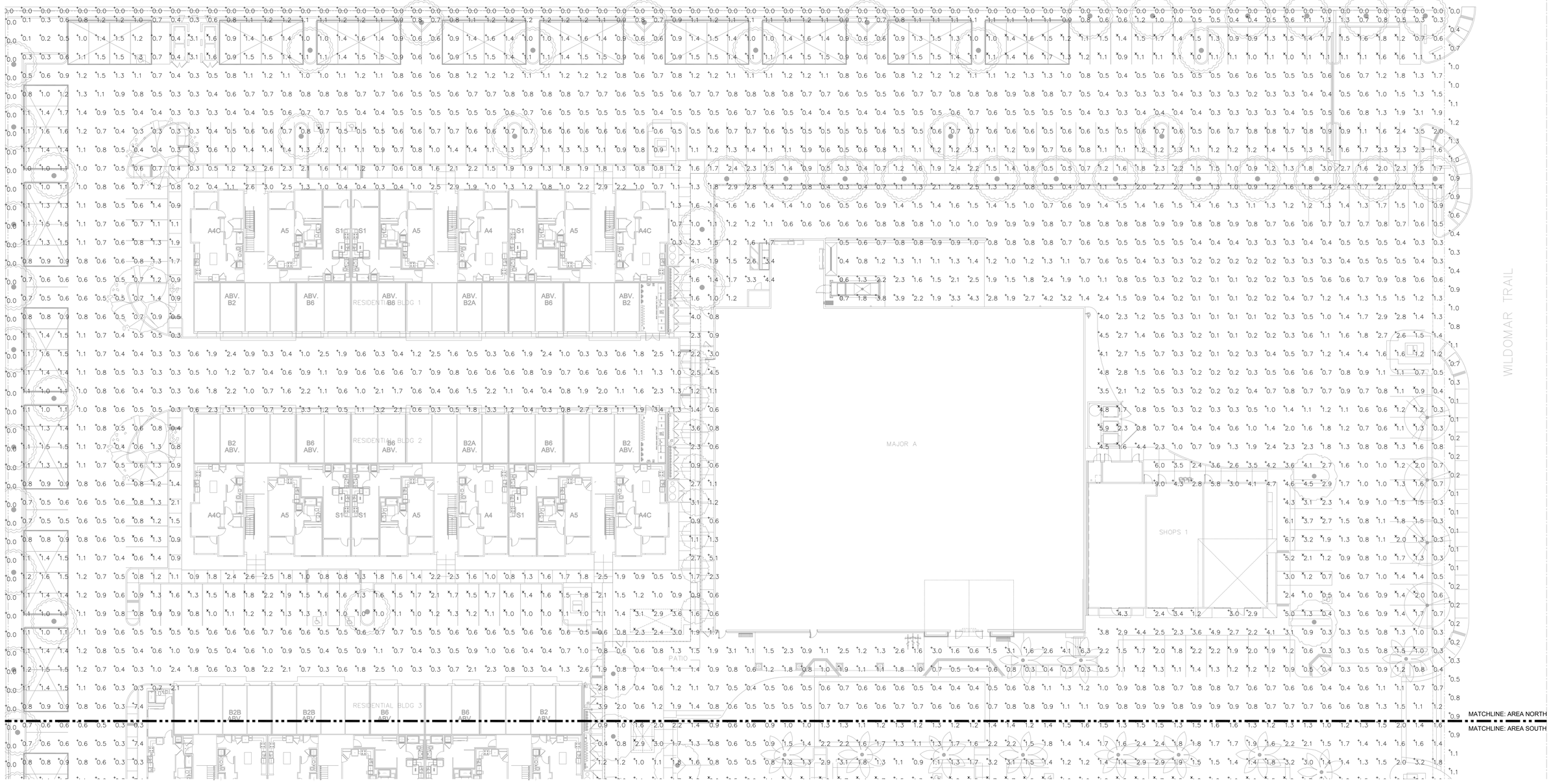
GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720
©GK PIERCE ARCHITECTS, INC. 2021

1"=20'-0" 0 10' 20' 40' 60'
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin E10 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10,E11.dwg 04/19/2022 15:46
Last plotted by ramon.benjamin E11 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E10,E11.dwg 04/19/2022 15:51

2695



Last saved by ramon.benjamin E21 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20_E21.dwg 04/19/2022 15:43
Last plotted by ramon.benjamin E20 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20_E21.dwg 04/19/2022 15:50

E2.0

REGISTERED PROFESSIONAL ENGINEER ROY L. OVE No. E-17300 Exp. 6-30-23 ELECTRICAL STATE OF CALIFORNIA

SALASOBRIEN | expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553

#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com

DP | JVP | RB

SITE LIGHTING PHOTOMETRICS PARTIAL AREA - NORTH

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GKPIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

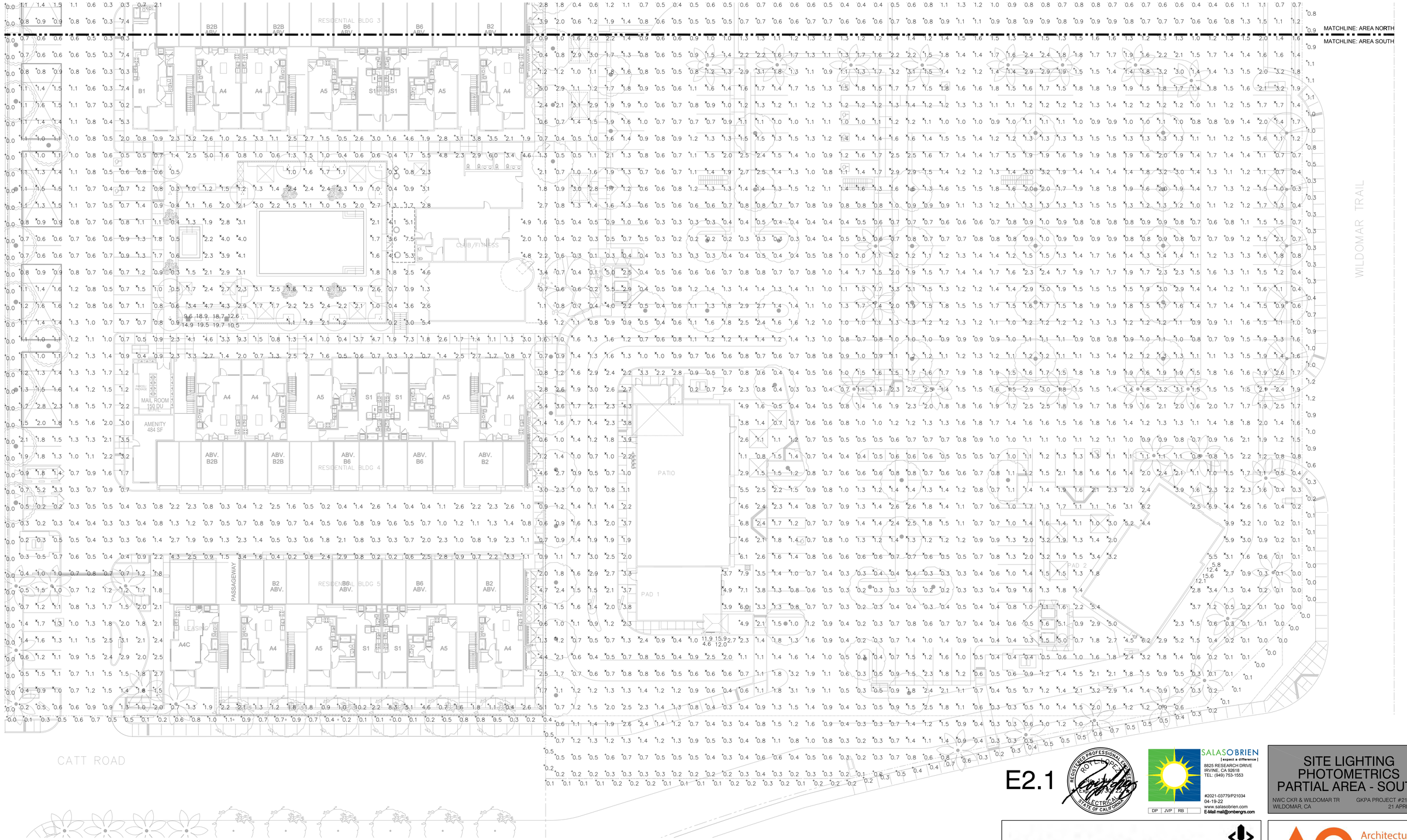
©GK PIERCE ARCHITECTS, INC. 2021

1"=20'-0" 0 10' 20' 40' 60'

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA



WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

1"=20'-0" (0, 10', 20', 40', 60')

NORTH

E2.1

SITE LIGHTING PHOTOMETRICS PARTIAL AREA - SOUTH

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

REGISTERED PROFESSIONAL ENGINEER — ROY L. LOPEZ — EXP. 30 JUN 23 — ELECTRICAL — STATE OF CALIFORNIA

SALAS O'BRIEN | expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553

#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com

DP | JVP | RB

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

Last saved by ramon.benjamin E21 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20,E21.dwg 04/19/2022 15:43
Last plotted by ramon.benjamin E21 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E20,E21.dwg 04/19/2022 15:51

TYPE S1A S1B S1C

cyclone

Domia CY55P1B Approval – Specification

Project: Order:
Qty: Luminaire: Type:

Tenon Details: Round shape, made of one-piece cast A356 aluminum. An interior border makes it possible to fix the frame module. The certification, maintenance and coding labels of the luminaire are located inside the housing module.

Frame Module: Cast A356 aluminum ring mechanically fixed to the housing, with hinge and quarter-turn latch that accepts the lens module and provides access to the driver module.

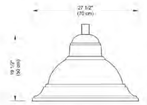
Optical Module: The cast A384 aluminum heat sink is optimized to minimize the temperature of the LEDs, increasing their longevity and efficiency. The lens module is assembled mechanically for easy replacement. A flat lens in ▼ is fixed on the cast aluminum frame. The lens is fully IP67 thanks to the silicone gasket. The high efficiency ▼ LED circuit is mechanically assembled on the heat sink. The lifetime of the LEDs is 100,000 hours. It is based on the LM-80 test and extrapolated with TM-21. This data is calculated when 50% of the LEDs produce 70% of their initial luminous flux (L70). The minimum color rendering index (CRI) is 70. The lenses are made of acrylic and designed to illuminate only where needed while achieving excellent uniformity with maximum spacing. The type according to IES ▼.

Driver Module: The self-adjusting Class 1 (50W and over) or Class 2 (20 to 40W) driver is removable without tools.

Primary Voltage of ▼ **Volts.** 50 / 60Hz. THD max 20%. The high power factor is of 90%. The operating temperature is from -40° F (-40° C) to 130° F (50° C). Complies with ROHS. Assembled with quick-disconnect connectors. Complete with 10kA tripolar overvoltage protection for live, neutral and ground lines according to EEE / ANSI C62.41 2002 C. The driver offers 0-10 Volts output.

Wiring / Hardware: Type TEW 14-7, 12" (30cm) minimum exceeding luminaire. All electrical connections between the modules are provided with quick-disconnect connectors for easy maintenance. All outside accessible hardware is accessible is stainless steel. Silicone gaskets are used for sealing the luminaire.

Color: ▼ Textured or Smooth (SM) ▼ finish. The application of durable polyester powder coating meets AAMA 2604 requirements (5 years at all weather conditions). The finish meets ASTM-D7, B117, D1654 and D2247 standards for salt spray and moisture. Cyclone recommends a textured finish for this product.



EPA: 1.61 ft² **Weight:** 52 lbs / 24 kg

Suggested Mountings
See Mounting Specification Sheets for details



Stamp/Approval:
Name: Date:

Name: Page 1 of 2
Date:

Cyclone Lighting: 2175 Des Entreprises Blvd. Terrebonne (QC) Canada J6Y 1W9
Phone: 450.434.5000 - info@cyclonelighting.com
www.cyclonelighting.com
© Cyclone Lighting 2020-12

cyclone

Domia CY55P1B Approval – Specification

Project: Order:
Qty: Luminaire: Type:

Ordering Template

Model	Lens	Dist.	Performance Package	CCT	Volt	Adaptor	Ph Cell	Options	Color	Texture	Op. Fin.
CY55P1B	FGC	2	10W (3300LM)	3K	120-277	NONE	NONE	NONE	BK	TX	MG
	FGF	2HS	30W (4200LM)	4K	347-480		PC	ADV	DG	SM	
		3	40W (5600LM)		120			FDP506	MA		
		3HS	50W (6600LM)		208			FDP508	SI		
		3M	50W (7900LM)		240			SD	BZ		
		3MHS	60W (10500LM)		277				BG		
		4	100W (13900LM)		347				GM		
		4HS	130W (15500LM)		480				PG		
		5							WH		

*Not available for 4HS5

Ordering Code

References

Lens
FGC Flat Glass Clear
FGF Flat Glass Frosted

Distribution
2 Type 2
3 Type 3
3HS Type 3 with House Shield
3M Type 3 Medium
3MHS Type 3 Medium with House Shield
4 Type 4
4HS Type 4 with House Shield
5 Type 5
See Photometric data document for photometric values

CCT
3K 3000K
4K 4000K

Watt
See Photometric Data document for lumens output per distribution and lens

Volts
120-277 MVOLT 120-277VAC
347-480 HVOLT 347-480VAC

Adaptor
None Fits into Ø 2" I.D. X 4" long tenon

Photocell
PC Button-type photocell

Options
ADV Side Mount Filter
FDP506 Program 50% for 6 hours (5PM to 9AM)
FDP508 Program 50% for 8 hours (5PM to 9AM)
SD* Field adjustable 10% increment step-dimming switch
* Contact factory for wireless controls and more information regarding SD option

Color
BK Black RAL9005
DG Dark green RAL6012
MA Marine blue RAL5013
SI Metallic silver RAL9006 (smooth only)
BZ Dark bronze RAL8019
BG Burgundy RAL3005
GM Moss green RAL6005
PG Pale grey RAL7040
WH White RAL9003

Texture
TX Textured
SM Smooth

Op. Fin. (Optional finish)
MG Marine grade pre-finish



EPA: 1.61 ft² **Weight:** 52 lbs (24 kg)

Suggested Mountings
See Mounting Specification Sheets for details



Stamp/Approval:
Name: Date:

Name: Page 2 of 2
Date:

Cyclone Lighting: 2175 Des Entreprises Blvd. Terrebonne (QC) Canada J6Y 1W9
Phone: 450.434.5000 - info@cyclonelighting.com
www.cyclonelighting.com
© Cyclone Lighting 2020-12

TYPE S2

Bollard
CBM1105C

SOURCE: LED 4000K = 150K, 70 CRI minimum†
WATERPROOF RATING: IP67 optical system
Dark Sky friendly optical system when using flat lens

LED code definition: 3 - 15W - 4K
Color temperature
LED Wattage
Optical distribution



Flat Glass Frost (FGF)

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM*	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY†
3-10W-4K	858	68	15	19	460	B0-U0-G0	35W
5-14W-4K	1001	53	15	19	460	B1-U0-G0	35W
2-20W-4K	1431	45	35	32	820	B1-U0-G0	50W
5-20W-4K	1597	50	35	39	820	B1-U0-G0	50W
3-30W-4K	1718	46	30	37	550	B1-U0-G0	70W
5-30W-4K	1995	53	30	37	850	B1-U0-G0	70W
3-35W-4K	2064	48	35	42	1050	B1-U0-G0	70W
7-35W-4M	2236	53	35	42	1050	B1-U0-G0	70W

Cylinder Lens - CAP (POND finish)

LED CODE	LUMEN OUTPUT	EFFICACY (LM/W)	WATTAGE LED	WATTAGE SYSTEM*	LED CURRENT (mA)	BUG RATING	HID EQUIVALENCY†
3-15W-4K	1328	88	15	19	460	B0-U0-G1	35W
5-14W-4K	1579	82	15	19	460	B0-U0-G1	35W
3-25W-4K	1916	118	25	32	930	B0-U0-G1	50W
5-24W-4K	1940	80	25	32	930	B1-U0-G1	70W
3-30W-4K	1064	119	30	37	950	B1-U0-G1	70W
5-30W-4K	1066	81	30	37	950	B1-U0-G1	70W
3-35W-4K	1340	80	35	43	1050	B1-U0-G1	70W
5-35W-4K	1303	77	35	43	1050	B1-U0-G1	70W

†ES-19-21 Calculated **L70** is over **363 000 hours.**
IES-TM-21 Reported more than **54 000 hours.**
*System wattage includes the LED and the Driver.
†Equivalency should always be verified by photometric layout.
**4000K used for testing. 3000K photometrics is available on website

Note: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Cyclone Lighting. Cyclone Lighting reserves the right to substitute materials or change the manufacturing process of its products without prior notification. See the latest results and updates on our website at www.cyclonelighting.com

cyclone
REV. 5: 09/10

Bollards
CBM1701C/CBM1105C/CBM1154C/CBM1210C/CBM2112C

Ordering Template

MODEL	LENS	DIST.	WATT	CT	VOLT	BASE	OPTIONS	COLOR	TEXTURE	OP.FIN.
CBM1701C	FGF	3	15W	3K	120	NONE[1]	NONE	BK	TX	MG
CBM1105C	CAC	5	25W	4K	208	BB1[1]	PC[1,2]	DG	SM	
CBM1154C	CAP[1]		30W		240	BB2[1]	GFRC1	MA		
CBM1210C			35W		277	BB3[1,3]	GFRC2	SI		
CBM2112C					347			BZ		
					480			BG		
								GM		
								PG		
								WH		

[1]FOR ALL BOLLARD EXCEPT CBM1701C
[2]AVAILABLE ONLY WITH CBM1701C
[3]OPTION PC AND GRFC NOT AVAILABLE WITH BB3
[4]OPTION NOT AVAILABLE FOR CBM1701C
[5]OPTION NOT AVAILABLE WITH 480V

ORDERING CODE

References

LENS
FGF FLAT GLASS FROST
CAC CLEAR CYCLINDRICAL ACRYLIC GLOBE
CAP POND (DIFFUSED) CYCLINDRICAL ACRYLIC GLOBE

DISTRIBUTION
SEE PHOTOMETRIC PAGE FOR LUMEN OUTPUT

WATT
SEE PHOTOMETRIC PAGE FOR LUMEN OUTPUT

CCT
3K 3000K
4K 4000K

BASE
NONE NONE
BB1 ROUND BASE
BB2 ROUND BASE WITH BASE COVER
BB3 RIBBED BASE

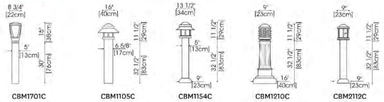
OPTIONS
NONE NONE
PC BUTTON-TYPE PHOTOCELL
GRFC1 DUPLEX RECEPTACLE, GROUND FAULT CURRENT INTERRUPTER, 125 VAC (15A), COMPLETE WITH A LOCKABLE "WeatherProof" WEATHERPROOF COVER
GRFC2 DUPLEX RECEPTACLE, GROUND FAULT CURRENT INTERRUPTER, 125 VAC (15A), COMPLETE WITH A LOCKABLE "WeatherProof" WEATHERPROOF COVER

COLOR
BK BLACK RAL9005
DG DARK GREEN RAL6012
MA MARINE BLUE RAL5013
SI METALLIC SILVER RAL9006 (SMOOTH ONLY)
BZ DARK BRONZE RAL8019
BG BURGUNDY RAL3005
GM MOSS GREEN RAL6005
PG PALE GREY RAL7040
WH WHITE RAL9003

TEXTURE
TX TEXTURED
SM SMOOTH

OP.FIN. (OPTIONAL FINISH)
MG MARINE GRADE PRE-FINISH

Luminaire



TYPE S3

LITHONIA LIGHTING

Catalog Number	
Notes	
Type	

LED Linear

CLX

24", 36", 48" and 96" Lengths



FEATURES & SPECIFICATIONS

INTENDED USE — The CLX is a linear lighting solution that is available in multiple lengths, lumen packages and distributions. Designed for versatility, the CLX can address virtually any indoor lighting need. The CLX is also offered in standard and high efficacy configurations and capable of being continuous row mounted or installed as a stand-alone fixture. Ideal for skylight and downlight in commercial, retail, manufacturing, warehouse, and display applications. **Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate. Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.**

CONSTRUCTION — Channel and cover are formed from code-gauge cold-rolled steel. Housing and lens ends are injection molded plastic to provide a more architectural look and feel. The end caps come standard with a 5/8" knock out for continuous row mounting but can be ordered without.

Finish: Paint options include high-gloss, Baked white polyester (WH), opalescent (GACF), matte black (HB) and smoke gray (MGY). Pre-coat-type phosphate pre-treatment ensures superior paint adhesion and rust resistance.

OPTICS — Offered with acrylic lens and lens trim configurations. Provides a choice of optical distributions including, wide, narrow, and color.

ELECTRICAL — 3000mA high-output LEDs integrated on a two-layer circuit board, ensuring cool-running operation. Optional internal pluggable wiring harness for reduced labor cost in row mounting applications. See P.R.E. ordering information on page 5-6. Electronic LED drivers is multi-volt input and 0-10V dimming standard (see Operational Data on page 4 for actual wattage consumption). The fixture is IP20 rated and has been tested to a minimum low range of 2.5kV at 0.5Hz combination wave for indoor locations. Regional locations requiring higher level of protection additional surge protection must be provided. L70 is 100,000 hours at 25˚C.

ULEs provide nominal 80 CRI at 90 CRI at 3000-K, 3500-K, 4000-K or 5000-K.

Lumen output up to 22,000 lumens per foot.

INSTALLATION — Fixture may be ceiling or wall mounted (with or without THICK bumper or angle mounted with CLAMKLIBT), pendant or stem mounted with appropriate mounting systems.

WARNING — Removing the lens and scoring the fixture during installation exposes the LEDs, putting them at risk for damage.

If you plan to surface-mount this fixture, we recommend using the THICK. This eliminates the need to score the fixture.

If you plan to continuous row mount, we recommend using the FLX wiring harness option. Ultra eliminates the need to open the fixture.

Damage to the LEDs caused during installation will not be covered under the warranty.

LISTINGS — CSA certified to US and Canadian safety standards. For use in damp locations between -4°F (-20°C) and 104°F (40°C). Optional High Ambient (hA) ranging to 122°F (50°C) available on certain lumen packages (see ambient temperature chart for additional information).

Designlights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN — Product with the BAA option is assembled in the USA and meets the Buy American(a) government procurement requirements under FAR, DFARS and DOT. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

Stock configurations are offered for shorter lead times:

Stock Part Number	BPC	DLC QPL Product ID	DLC Premium
CLX L40 3000LM SEF FDL MVOLT GZ10 40K 80CRI WH	0091723125616	PLHA3294	Yes
CLX L40 3000LM SEF FDL MVOLT GZ10 35K 80CRI WH	0091723126286	PVHN3294	Yes
CLX L40 5000LM SEF FDL MVOLT GZ10 40K 80CRI WH	0091723125999	PTTBG20	Yes
CLX L40 5000LM SEF FDL MVOLT GZ10 35K 80CRI WH	0091723126998	PNHA3294	Yes
CLX L96 4000LM SEF FDL MVOLT GZ10 40K 80CRI WH	0091723126461	PFTTB3RH	Yes
CLX L96 4000LM SEF FDL MVOLT GZ10 35K 80CRI WH	0091723125915	PNHA3STE	Yes
CLX L96 10000LM SEF FDL MVOLT GZ10 40K 80CRI WH	0091723125922	PVHC7STP	Yes
CLX L96 10000LM SEF FDL MVOLT GZ10 35K 80CRI WH	0091723125830	PVTFL35K	Yes
CLX L48 5000LM SEF RDL MVOLT GZ10 40K 80CRI WH	0091723126160	PJHA3294	Yes
CLX L48 5000LM SEF RDL MVOLT GZ10 35K 80CRI WH	0091723125892	PVWJ3ARL	Yes
CLX L48 5000LM SEF RDL MVOLT GZ10 40K 80CRI WH	0091723125854	PTTBG2S	Yes
CLX L48 5000LM SEF RDL MVOLT GZ10 35K 80CRI WH	0091723126046	PNAG2C3R	Yes
CLX L96 6000LM SEF FDL MVOLT GZ10 40K 80CRI WH	0091723125679	PFTTB8RV	Yes
CLX L96 6000LM SEF FDL MVOLT GZ10 35K 80CRI WH	0091723125623	PJWD5A3	Yes
CLX L96 10000LM SEF RDL MVOLT GZ10 40K 80CRI WH	0091723125955	PVBDC1EW	Yes
CLX L96 10000LM SEF RDL MVOLT GZ10 35K 80CRI WH	0091723125647	PVTFL35K	Yes

Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® control networks marked by a ✓ checkmark symbol

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

© 2018-2021 Acuity Brands Lighting, Inc. All rights reserved.
Rev. 09/02/21

CLX LED Linear

ORDERING INFORMATION — Lead times will vary depending on options selected. Consult with your sales representative. **Example:** CLX L48 5000LM SEF WDL MVOLT GZ10 40K 80CRI WH

Series	Length	Nominal lumens	Performance package	Louvers	Lens
CLX LED linear	L24 24"[1,2]	1500LM 1,500 lumens	SEF Standard efficiency†	(Blank) Less louver	L Lens Less lens
		2000LM 2,000 lumens	HEF Premium efficiency	SBLW Straight blade louvers, white†	FDL Flat diffuse ††
		2500LM 2,500 lumens		SBLMB Straight blade louvers, matte black†	RDL Round diffuse ††
		3500LM 3,500 lumens		SBLGV Straight blade louvers, galvanized†	WDL Wide diffuse ††
		4000LM 4,000 lumens		SBLSMGY Straight blade louvers, smoke gray†	
		5000LM 5,000 lumens [3,4]			
	L36 36"[1]	2250LM 2,250 lumens			
		3000LM 3,000 lumens			
		3750LM 3,750 lumens			
		5250LM 5,250 lumens			
		6750LM 6,750 lumens			
		7500LM 7,500 lumens [3]			
	L48 48"	3000LM 3,000 lumens			
		4000LM 4,000 lumens			
		5000LM 5,000 lumens			
		6000LM 6,000 lumens [3]			
		7500LM 7,500 lumens [3]			
		9000LM 9,000 lumens [3]			
		10000LM 10,000 lumens [3,4]			
	L96 96"	6000LM 6,000 lumens			
		8000LM 8,000 lumens			
		10000LM 10,000 lumens			
		14000LM 14,000 lumens [3,4]			
		16000LM 16,000 lumens [3,4]			
		20000LM 20,000 Lumens [3,4]			

Distribution	Voltage	Driver[10]	Color temperature	Colorizing rendering index
(Blank) General	MVOLT 120-277[5,6] 277 277V	GZ10 Generic (0-10V, dims to 10%)[11]	30K 3000 K	80CRI 80 CRI
ND Narrow[7,8]	120 120V	GZ1 eldoLED 0-10V, dims to 1%[12]	35K 3500 K	90CRI 90 CRI
WD Wide[7,8]	208 208V[9]	480 480V[6,9]	40K 4000 K	
ADJ Adjustable, 24" x 48" cutout[7,8]	240 240V[9]		50K 5000 K	

Options	Finish
PS10/50 Emergency battery pack, 10W, CA Title 20 Non-compliant[13,14,15]	WH White
EVWHCLP Emergency battery pack, 10W Linear Constant Power, Certified in CA Title 20 (84-60)[13,14,15] (Consult factory)	GALVW Galvanized with white lens end caps
BGTD Generator transfer device, not available with PS10/50[13,14,15]	GALVB Galvanized with black lens end caps
DCS 5", 10/5 Button selectable Dim/ Pass cable[16] (Fixture will bear dry location label)	BK Matte black
HA High ambient, for use in ambient temperatures up to 50°C[17]	SMGYW Smoke gray with white lens end caps
EPAIR3 Decorative emphasis, no knock out[18]	SMGYB Smoke gray with black lens end caps
OLITCTR Wiring leads pulled through back center of fixture[19]	
OLITEND Wiring leads pulled through end of fixture[20]	
GasketSeals	
CS1W Straight blade plug, 120V[21,22]	
CS2W NEMA twist-lock plug, 120V[21,22]	
CS7W Straight blade plug, 277V[21,22]	
CS15W NEMA twist-lock plug, 277V[21,22]	
CS22W NEMA twist-lock plug, 347V[21,22]	
CS15W NEMA twist-lock plug, 480V[21,22]	
CS10W 600W SCOOW white cord, no plug (no voltage required)	
CSAWGB2SMYD12 6' white cord, 16/3, no plug, (w/ladder, bmr voltage dimming wires (no wall cap or required)[23]	

Options	Finish
FLX Plug-in wiring, see page 34 for ordering information	
PLRTLFG Plug-in wiring, low voltage dimming[24]	
BRE Recessed[25]	
SPD Surge protection device, provides up to 10kV protection[26]	
BAA Buy American Act Compliant	
nLight® Wireless[27,28]	
NLTAIR2 RE57 nLight® Generation 2 enabled PIR integral occupancy sensor with automatic dimming photocell	
NLTAIR2 RCS/PDT nLight AIR Generation 2 enabled dual technology integral occupancy sensor with automatic dimming photocell	
NLTAIR2 BIO No sensor control	

nLight® Wired[29,30]	
W180 nLight® wi80 lens trim management	
RE57 nLight® wi57 PIR integral occupancy sensor[31]	
WSXPDT1 nLight® wi1 PDT 7 dual technology integral occupancy control	
WSXRADCK nLight® wi57 ADCK PIR integral occupancy sensor with automatic dimming photocell[32]	
WSXPDT1-IDCK nLight® wi1 PDT 7 dual technology integral occupancy sensor with automatic dimming photocell[33]	

Individual controls[34,35]	
MSDT PIR integral occupancy sensor	
MSDPDT7 PDT-7 dual technology integral occupancy control	
MSDTADC PIR integral occupancy sensor with automatic dimming control photocell	
MSDPDT-IDCK PDT integral occupancy sensor with automatic dimming control photocell	

See Accessories and Footnotes on next page

© 2018-2021 Acuity Brands Lighting, Inc. All rights reserved.
Rev. 09/02/21

TYPE S4



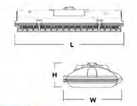
D-Series
LED Surface Canopy

Buy American

Catalog Number	
Notes	
Type	

Specifications

Length: 17-3/4" (451 mm)
Width: 8-1/2" (215.9 mm)
Height: 3-7/16" (87.3 mm)
Weight (max): 16 lbs (7.3 kg)



Introduction

The D-Series LED Surface Canopy luminaire is ideal for covered walkways or drive-thrus, semi-covered outdoor aisles, and walk-in coolers and freezers. Its five optical choices provide the design flexibility to potentially reduce luminaire counts while still meeting IES criteria, lowering overall energy consumption.

Its expected service life of over 100,000 hours (20 years of nighttime operation) combined with the available motion/ambient sensor offers an extremely low maintenance solution that yields quick payback.

Ordering Information

EXAMPLE: DSXSC LED 20C 700 40K TSM MVOLT SRM DWHXD

DSXSC LED										
Series	Lens	Drive current	Color temperature	Distribution	Voltage	Mounting				
DSXSC LED	10C (10 LEDs per engine)[1,2]	350 350 mA	30K 3000 K	TSM Type V, medium	MVOLT[3] 277[3]	Shipped included				
	20C (20 LEDs, three engines)	530 530 mA	40K 4000 K	TSW Type V, medium	120[3] 347[3]	SRM Surface mount (13 inch height required)				
	30C (30 LEDs, three engines)	700 700 mA	50K 5000 K	TSH Type V, wide	208[3] 480[3]					
		1000 1000 mA (1 A)	AMBPC Ambient photocell operation	TSR Type V, rectangular	240[3]					
				ASY Asymmetric						

Options			Finish
Shipped installed			Shipped separately
PIR Motion/ambient sensor for 15-30' mounting height, and typical applications requiring daylight harvesting and 10-fc compliance [4]	PIRH Motion/ambient sensor for 8-15' mounting heights.[4]	PIRHFC3V Motion/ambient sensor for 15-30' mounting height, and typical applications requiring daylight harvesting and 10-fc compliance [4]	DWHXD White
PIR1FC3V Motion/ambient sensor for 8-15' mounting heights and for typical applications requiring daylight harvesting and 10fc compliance [4]	PIRHFC3V Motion/ambient sensor for 15-30' mounting height, and typical applications requiring daylight harvesting and 10-fc compliance [4]	PIR1FC3V Motion/ambient sensor for 8-15' mounting heights and for typical applications requiring daylight harvesting and 10fc compliance [4]	DNAXD Natural aluminum
	PIRHFC3VPIR Motion/ambient sensor for emergency circuits for 15-30' mounting height.[5,6]	PIR1FC3VPIR Motion/ambient sensor for emergency circuits for 15-30' mounting height.[5,6]	DDBXD Dark bronze

Accessories

Ordered and shipped separately.

DSXSCHEX Hex-wrench key (1 per light engine)
DSXSCSBOLTMNTKIT Bolt shroud for SRM use (allows a low-wide, wall-hugging profile) (1 per fixture)

NOTES
1. Available with 700mA or 1000mA option only.
2. Not available with 347 or 480V.
3. AMBPC only available with 530mA or 700mA.
4. Designlights Consortium qualified.
5. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with Hazmg DS-ZP option).
6. Not with one light engine (10C). Only available with 700mA or 1000mA.
7. Also available as a separate accessory; see Accessories information at left.
8. Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
9. See the electrical section on page 3 for more details. 10C1ONLY not available with all PIR options.
10. Dimming driver standard. Available in layouts up to 30'. Not available in 10C, 20C, 30C, 10C1ONLY or 20C1ONLY.
11. PIR & PIRFC3V specifies the Acuity Controls ISENSOR 2.0 (360° motion/ambient sensor, the PIR1 & PIR1FC3V specifies the Acuity Controls ISENSOR 2.0 (180° motion/ambient sensor.

© 2012-2021 Acuity Brands Lighting, Inc. All rights reserved.

Performance Data

Lumen Output

Ratings are based on actual photometric tests performed in accordance with IESNA LM-79-19. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts.

Light Engine	Drive Current (mA)	System Watts	Drive Type	30K (3000 K, 70 CRI)						40K (4000 K, 70 CRI)						50K (5000 K, 70 CRI)						AMBPC			
				Lumens	B	U	G	LPW	CCT	Lumens	B	U	G	LPW	CCT	Lumens	B	U	G	LPW	CCT	Lumens	B	U	G
10C	350 mA	39W	ECP	4,045	2	0	1	104	3000	4,243	2	0	1	109	4000	4,243	2	0	1	109	5000	4,243	2	0	1
			FCP	3,792	2	0	1	97	3000	3,977	2	0	1	102	4000	3,977	2	0	1	102	5000	3,977	2	0	1
			FSP	3,798	2	0	1	97	3000	3,983	2	0	1	102	4000	3,983	2	0	1	102	5000	3,983	2	0	1
			FWD	3,777	2	0	1	97	3000	3,961	2	0	1	102	4000	3,961	2	0	1	102	5000	3,961	2	0	1
	530 mA	59W	ECP	6,077	2	0	1	103	3000	6,374	2	0	1	108	4000	6,374	2	0	1	108	5000	6,374	2	0	1
			FCP	5,698	2	0	1	97	3000	5,976	2	0	1	101	4000	5,976	2	0	1	101	5000	5,976	2	0	1
			FSP	5,707	2	0	1	97	3000	5,985	2	0	1	101	4000	5,985	2	0	1	101	5000	5,985	2	0	1
			FWD	5,676	2	0	1	96	3000	5,953	2	0	1	101	4000	5,953	2	0	1	101	5000	5,953	2	0	1
	700 mA	78W	ECP	7,966	2	0	1	102	3000	8,353	2	0	1	107	4000	8,353	2	0	1	107	5000	8,353	2	0	1
			FCP	7,467	2	0	1	96	3000	7,830	2	0	1	100	4000	7,830	2	0	1	100	5000	7,830	2	0	1
			FSP	7,479	2	0	1	96	3000	7,843	2	0	1	100	4000	7,843	2	0	1	100	5000	7,843	2	0	1
			FWD	7,439	2	0	1	95	3000	7,801	2	0	1	100	4000	7,801	2	0	1	100	5000	7,801	2	0	1
	1000 mA	107W	ECP	9,855	2	0	1	92	3000	10,333	2	0	1	96	4000	10,333	2	0	1	96	5000	10,333	2	0	1
			FCP	9,239	2	0	1	86	3000	9,690	2	0	1	91	4000	9,690	2	0	1	91	5000	9,690	2	0	1
			FSP	9,254	2	0	1	86	3000	9,706	2	0	1	91	4000	9,706	2	0	1	91	5000	9,706	2	0	1
			FWD	9,205	2	0	1	86	3000	9,655	2	0	1	90	4000	9,655	2	0	1	90	5000	9,655	2	0	1
20C	350 mA	78W	ECP	8,090	2	0	1	104	3000	8,487	2	0	1	109	4000	8,487	2	0	1	109	5000	8,487	2	0	1
			FCP	7,584	2	0	1	97	3000	7,955	2	0	1	102	4000	7,955	2	0	1	102	5000	7,955	2	0	1
			FSP	7,596	2	0	1	97	3000	7,967	2	0	1	102	4000	7,967	2	0	1	102	5000	7,967	2	0	1
			FWD	7,553	2	0	1	97	3000	7,922	2	0	1	102	4000	7,922	2	0	1	102	5000	7,922	2	0	1
	530 mA	118W	ECP	12,154	2	0	1	103	3000	12,748	2	0	1	108	4000	12,748	2	0	1	108	5000

TYPE S5A

WDGE1 LED

Architectural Wall Sconce

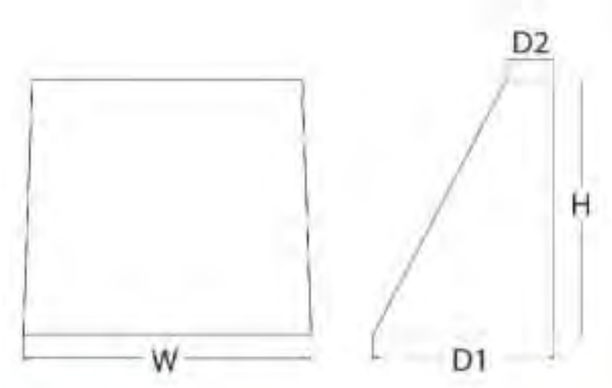
DLC Premium · DLC · IDA · Buy American · Title 20



Catalog Number	
Notes	
Type	

Specifications

Depth (D1):	5.5"
Depth (D2):	1.5"
Height:	8"
Width:	9"
Weight: (without options)	9 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (4000K) P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	—	—	1,200	2,000	—	—	—	—
WDGE2 LED	10W	18W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000	—
WDGE3 LED	15W	18W	Standalone / nLight	7,500	8,500	10,000	12,000	—	—
WDGE4 LED	—	—	Standalone / nLight	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE1 LED	P1 P2	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K[1] 5000K	80CRI 90CRI	VF Visual comfort forward throw VW Visual comfort wide	MVOLT 347[2]	**Shipped included** SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[5] **Shipped separately** AWS 3/8inch Architectural wall spacer PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available.

Options	
E4WH[3]	Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min)
PE[4]	Photocell, Button Type
DS	Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details)
DMG	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)
BCE	Bottom conduit entry for back box (PBBW). Total of 4 entry points.

Finish			
DDBXD	Dark bronze	DDBTXD	Textured dark bronze
DBLXD	Black	DBLBXD	Textured black
DNAXD	Natural aluminum	DNATXD	Textured natural aluminum
DWHXD	White	DWHGXD	Textured white
DSSXD	Sandstone	DSSTXD	Textured sandstone

Accessories
Ordered and shipped separately.

WDGEAWS DDBXD	WDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE1PBBW DDBXD U	WDGE1 surface-mounted back box (specify finish)

NOTES
1. 50K not available in 90CRI.
2. 347V not available with E4WH, DS or PE.
3. E4WH not available with PE or DS.
4. PE not available with DS.
5. Not qualified for DLC. Not available with E4WH.

© 2019-2021 Acuity Brands Lighting, Inc. All rights reserved.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	27K (2700K, 80 CRI) Lumens	LPW	B	U	G	30K (3000K, 80 CRI) Lumens	LPW	B	U	G	35K (3500K, 80 CRI) Lumens	LPW	B	U	G	40K (4000K, 80 CRI) Lumens	LPW	B	U	G	50K (5000K, 80 CRI) Lumens	LPW	B	U	G
P1	10W	VF	1,120	112	0	0	0	1,161	116	0	0	0	1,194	119	0	0	0	1,227	123	0	0	0	1,235	123	0	0	0
		VW	1,122	112	0	0	0	1,163	116	0	0	0	1,196	120	0	0	0	1,229	123	0	0	0	1,237	124	0	0	0
P2	15W	VF	1,806	120	1	0	0	1,872	125	1	0	0	1,925	128	1	0	0	1,978	132	1	0	0	1,992	133	1	0	0
		VW	1,809	120	1	0	0	1,876	125	1	0	0	1,929	128	1	0	0	1,982	132	1	0	0	1,996	133	1	0	0

Electrical Load

Performance Package	System Watts	Current (A) 120V	208V	240V	277V	347V
P1	10W	0.082	0.049	0.043	0.038	—
	13W	—	—	—	—	0.046
P2	15W	0.132	0.081	0.072	0.064	—
	18W	—	—	—	—	0.056

Lumen Multiplier for 90CRI

CCT	Multiplier
27K	0.845
30K	0.867
35K	0.845
40K	0.885
50K	0.898

Lumen Output in Emergency Mode (4000K, 80 CRI)

Option	Dist. Type	Lumens
E4WH	VF	646
	VW	647

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.95	>0.91

© 2019-2021 Acuity Brands Lighting, Inc. All rights reserved.

TYPE S5B

WDGE2 LED

Architectural Wall Sconce
Visual Comfort Optic

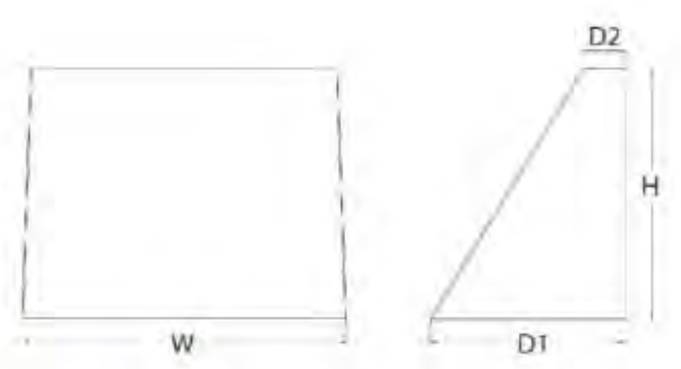
DLC Premium · DLC · IDA · Buy American · Title 20



Catalog Number	
Notes	
Type	

Specifications

Depth (D1):	7"
Depth (D2):	1.5"
Height:	9"
Width:	11.5"
Weight: (without options)	13.5 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 delivers up to 6,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

WDGE LED Family Overview

Luminaire	Optics	Standard EM, 0°C	Cold EM, -20°C	Sensor	Approximate Lumens (4000K, 80CRI) P0	P1	P2	P3	P4	P5	P6
WDGE1 LED	Visual Comfort	4W	—	—	750	1,200	2,000	—	—	—	—
WDGE2 LED	Visual Comfort	10W	18W	Standalone / nLight	—	1,200	2,000	3,000	4,500	6,000	—
WDGE2 LED	Precision Refractive	10W	18W	Standalone / nLight	700	1,200	2,000	3,200	4,200	—	—
WDGE3 LED	Precision Refractive	15W	18W	Standalone / nLight	—	7,500	8,500	10,000	12,000	—	—
WDGE4 LED	Precision Refractive	—	—	Standalone / nLight	—	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI VF MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE2 LED	P1[1] P1SW P2[1] P2SW P3[1] P3SW P4[1] P5[1] Door with small window (SW) is required to accommodate sensors. See page 2 for more details.	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K[2] 5000K	80CRI 90CRI	VF Visual comfort forward throw VW Visual comfort wide	MVOLT 347[3] 480[3]	**Shipped included** SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only) **Shipped separately** AWS 3/8inch Architectural wall spacer PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available.

Options	
E4WH	Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min)
E10WH	Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min)
E20WC	Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min)
PE[4]	Photocell, Button Type
DS[5]	Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details)
DMG[6]	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)
BCE	Bottom conduit entry for back box (PBBW). Total of 4 entry points.

Standalone Sensors/Controls (only available with P1SW, P2SW & P3SW)	
PIR	Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.
PIRH	Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.
PIR1FC3V	Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation.
PIRH1FC3V	Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation.
Networked Sensors/Controls (only available with P1SW, P2SW & P3SW)	
NLTAIR2 PIR	nLightAIR Wireless enabled bi-level motion/ambient sensor for 8-15' mounting heights.
NLTAIR2 PIRH	nLightAIR Wireless enabled bi-level motion/ambient sensor for 15-30' mounting heights.

See page 4 for out of box functionality.

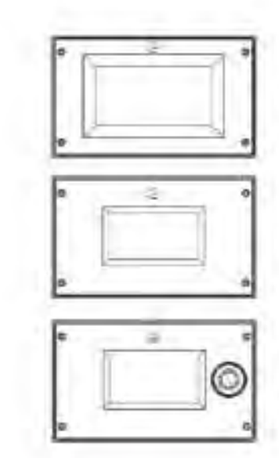
Finish	
DDBXD	Dark bronze
DBLXD	Black
DNAXD	Natural aluminum
DWHXD	White
DSSXD	Sandstone
DDBTXD	Textured dark bronze
DBLBXD	Textured black
DNATXD	Textured natural aluminum
DWHGXD	Textured white
DSSTXD	Textured sandstone

© 2019-2021 Acuity Brands Lighting, Inc. All rights reserved.

Accessories
Ordered and shipped separately.

WDGEAWS DDBXD	WDGE 3/8inch Architectural Wall Spacer (specify finish)
WDGE2PBBW DDBXD U	WDGE2 surface-mounted back box (specify finish)

NOTES
1. P1-P5 not available with sensors/controls. Sensors/controls only available with P1SW, P2SW and P3SW.
2. 50K not available in 90CRI.
3. 347V and 480V not available with E4WH, E10WH, E20WC or DS.
4. PE not available in 480V or with sensors/controls.
5. DS option not available with E4WH, E10WH, E20WC or sensors/controls.
6. DMG option not available with sensors/controls.
7. Not qualified for DLC. Not available with emergency battery backup or sensors/controls.



Default configuration with no sensors/controls.
Power Packages: P1, P2, P3, P4, P5

Small Window (SW) configuration
Power Packages: P1SW, P2SW, P3SW

Configuration with sensors/controls
Power Packages: P1SW, P2SW, P3SW

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	27K (2700K, 80 CRI) Lumens	LPW	B	U	G	30K (3000K, 80 CRI) Lumens	LPW	B	U	G	35K (3500K, 80 CRI) Lumens	LPW	B	U	G	40K (4000K, 80 CRI) Lumens	LPW	B	U	G	50K (5000K, 80 CRI) Lumens	LPW	B	U	G
P1 / P1SW	10W	VF	1,166	119	0	0	0	1,209	123	0	0	0	1,251	128	0	0	0	1,256	128	0	0	0	1,254	128	0	0	0
		VW	1,197	122	0	0	0	1,241	126	0	0	0	1,284	131	0	0	0	1,289	131	0	0	0	1,286	131	0	0	0
P2 / P2SW	15W	VF	1,878	129	1	0	0	1,947	134	1	0	0	2,015	139	1	0	0	2,023	139	1	0	0	2,019	139	1	0	0
		VW	1,927	133	1	0	0	1,997	137	1	0	0	2,067	142	1	0	0	2,075	143	1	0	0	2,071	143	1	0	0
P3 / P3SW	23W	VF	2,908	129	1	0	0	3,015	134	1	0	0	3,119	138	1	0	0	3,132	139	1	0	0	3,126	139	1	0	0
		VW	2,983	132	1	0	0	3,093	137	1	0	0	3,200	142	1	0	0	3,213	143	1	0	0	3,206	142	1	0	0
P4	35W	VF	4,096	117	1	0	1	4,247	121	1	0	1	4,394	126	1	0	1	4,412	126	1	0	1	4,403	126	1	0	1
		VW	4,202	120	1	0	0	4,357	125	1	0	1	4,508	129	1	0	1	4,526	129	1	0	1	4,517	129	1	0	1
P5	48W	VF	5,567	115	1	0	1	5,772	119	1	0	1	5,972	123	1	0	1	5,996	124	1	0	1	5,984	124	1	0	1
		VW	5,711	118	1	0	1	5,921	122	1	0	1	6,127	126	1	0	1	6,151	127	1	0	1	6,139	127	1	0	1

Electrical Load

Performance Package	System Watts	Current (A) 120V	208V	240V	277V	347V	480V
P1 / P1SW	10W	0.082	0.049	0.043	0.038	—	—
	13W	—	—	—	—	0.046	0.033
P2 / P2SW	15W	0.132	0.081	0.072	0.064	—	—
	18W	—	—	—	—	0.056	0.041
P3 / P3SW	23W	0.195	0.114	0.100	0.088	—	—
	26W	—	—	—	—	0.079	0.058
P4	35W	0.302	0.175	0.152	0.134	—	—
	38W	—	—	—	—	0.115	0.086
P5	48W	0.434	0.241	0.211	0.184	—	—
	52W	—	—	—	—	0.157	0.119

Lumen Multiplier for 90CRI

CCT	Multiplier
27K	0.845
30K	0.867
35K	0.845
40K	0.885
50K	0.898

Lumen Output in Emergency Mode (4000K, 80 CRI)

Option	Dist. Type	Lumens
E4WH	VF	646
	VW	647
E10WH	VF	1,658
	VW	1,701
E20WC	VF	2,840
	VW	2,913

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.03
10°C	50°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	>0.96	>0.95	>0.91

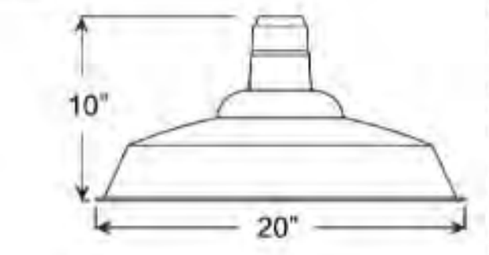
© 2019-2021 Acuity Brands Lighting, Inc. All rights reserved.

TYPE S6A S6B

ANP Lighting — Specifications W520

Project: ______ Fixture Type: ______ Quantity: ______ Customer: ______





W520 LED

Weight: 2.5 lbs

Specifications

Material: RLM shades are constructed of heavy duty spun aluminum. Wall back plate and driver housing are cast aluminum. All fasteners are stainless steel. Inside of shade is reflective white finish for all colors except galvanized paint finish. Screw hardware may not match paint.

Glass: Choice of clear, frosted or prismatic glass up to 24w Max.

Electrical: Universal voltage 120-277 is standard. 0-10V, TRIAC and ELV dimming to 1% protocols are standard for LED modules. (12w is 120v and TRIAC dimming only)

See page 2 table for LED module and driver specs, voltage and dimming protocols

Certifications: Cord mounts are UL Listed for dry locations. Arm mount, stem mount and wall mount are UL Listed for wet locations.

Finish: A polyester powder coat high quality finish is electro-statically applied and baked at 430° for exceptional durability and color retention. Products undergo an intensive five-step cleansing and pretreatment process for maximum paint adhesion.

Marine grade finish provides superior salt, humidity and UV protection. This coating withstands up to 3000 hours of continuous salt spray, comes with a 5-year warranty and is available in either a textured or gloss surface.

Modifications: Consult factory for custom or modified designs.

Catalog Logic: W520 -M024LDD W 40K- RTCW - E6 -100GLCL- PC - 41 - UNV
(RLM Style · Light Source, Wattage & Dimming · Distribution · CCT · Driver Housing · Mounting · Glass & Guard · Accessories · Finish · Voltage)

Catalog Number: W520 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 9 UNV

1 LIGHT SOURCE & WATTAGES

M012LDN	(12w, 750 lumen, Cree module) Integral driver, 120V, TRIAC dimming & narrow distribution only.
M009LDD	(9w, 850 lumen, Cree module)
M010LDD	(10w, 1250 lumen, Cree module)
M016LDD	(16w, 2000 lumen, Cree module)
M024LDD	(24w, 3000 lumen, Cree module)

2 DISTRIBUTION

W	(T5 Wide Distribution with Dome LED Lens)
N*	(T5 Narrow Distribution with Flat LED Lens)

*12w is narrow only, select "N".

3 COLOR TEMPERATURE (CCT)

27K	(2700K)
30K	(3000K)
35K	(3500K)
40K	(4000K)

4 DRIVER HOUSINGS*

NA	(Housing not required for 12w)
Wall Mount Options — Choose Arm in Box 5	
RTCW	(Driver Housing for Wall only (E-arms); 6 1/2" OD x 5 5/8" H)
SRTCW	(Smooth Driver Housing for Wall only (E-arms); 6" OD x 2 7/8" H)
RTCNCW	(Driver Housing/No Spun Cover for Wall only (E-arms); 5 7/8" OD x 2 5/8" H)
Cord Mount Options — Choose Cord Style in Box 5	
CRD-RTCC	(Driver Housing for Cord only; 6 1/2" OD x 5 5/8" H)
CRD-SRTCC	(Smooth Driver Housing for Cord only; 6" OD x 2 7/8" H)
CRD-RTCNCC	(Driver Housing/No Spun Cover for Cord only; 5 7/8" OD x 2 5/8" H)
Cable Mount Options — Choose Cord Style in Box 5	
SSC-RTCC	(Driver Housing for SS Cable/Cord only; 6 1/2" OD x 5 5/8" H)
SSC-SRTCC	(Smooth Driver Housing for SS Cable/Cord only; 6" OD x 2 7/8" H)
SSC-RTCNCC	(Driver Housing/No Spun Cover for SS Cable/Cord only; 5 7/8" OD x 2 5/8" H)
Stem Mount Options — Choose Stem Size in Box 5	
ST-RTCC	(Driver Housing for Stem only; 6 1/2" OD x 5 5/8" H)
ST-SRTCC	(Smooth Driver Housing for Stem only; 6" OD x 2 7/8" H)
ST-RTCNCC	(Driver Housing/No Spun Cover for Stem only; 5 7/8" OD x 2 5/8" H)
Emergency Backup Housing Options — Choose EMG Driver in Box 7	
CRD-DCCEM	(Emergency Ballast Housing for Cord only; 12" OD x 1 1/2" H) Choose Cord Style in Box 5.
ST-DCCEM	(Emergency Ballast Housing for Stem only; 12" OD x 1 1/2" H) Choose Stem Size in Box 5.
SSC-DCCEM	(Emergency Ballast Housing for SS Cable/Cord only; 12" OD x 1 1/2" H) Choose Cord Style in Box 5.

*Driver Housing finish will match fixture finish.

5 MOUNTING SOURCES*

Arm Mounts: E3 E4 E6 E8 E9 E10 E11 E12 E18 E25

Wall Mounts: WM54 WM74 WM317

Post Mounts: PM10 PM20 PM30 PM40 PM50 PM319

Cord Mounts — Color & Style (See page 5 for color cord style)

SJT Cord	
BLC (6' Black SJT Cord)	WHC (6' White SJT Cord)
Solid Fabric Colored Cords	
BLSF (6' Black)	ORSF (6' Orange)
GYSF (6' Gray)	LGSF (6' Lime Green)
CHSF (6' Chocolate Brown)	KGSF (6' Kelly Green)
WHSF (6' White)	CBSF (6' Cobalt Blue)
CASF (6' Cardinal)	SBSF (6' Sky Blue)
Patterned Fabric Colored Cords	
BWHPF (6' Black/White Houndstooth)	BIHPF (6' Brown/Ivory Houndstooth)
GYCPF (6' Gray/Citrus Yellow)	MOSPF (6' Magenta/Orange Stripe)
NMTPF (6' Navy Mini Tweed)	
Glossy Fabric Colored Cords	
GMGF (6' Gun Metal)	SSGF (6' Sterling Silver)
CPGF (6' Copper Penny)	BRGF (6' Bronze)
GOGF (6' Gold)	
Stem Mounts	
1/2" (13/16" OD) Rigid Stems	3/4" (1" OD) Rigid Stems
2ST6 2ST12 2ST18	3ST6 3ST12 3ST18
2ST24 2ST36 2ST48	3ST24 3ST36 3ST48
2ST60 2ST72 2ST96	3ST60 3ST72 3ST96

*Arm mounts, Wall mounts or Stem finish will match fixture finish.

© 2020 ANP Lighting. All rights reserved. These specifications are intended for general purposes only. ANP reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.

TYPE S6A S6B (CONT.)

ANP Lighting — Specifications W520

Project: ______ Fixture Type: ______ Quantity: ______ Customer: ______

LED MODULE SPECIFICATIONS

LED	CCT	Typical Luminous Flux	System Wattage	Typical Efficacy
9W	2700K	850	11W	97
	3000K	850	11W	97
	3500K	850	11W	97
	4000K	850	11W	97
10W	2700K	1250	12W	125
	3000K	1250	12W	125
	3500K	1250	12W	125
	4000K	1250	12W	125
12W	2700K	750	12W	65
	3000K	750	12W	65
	3500K	750	12W	65
	4000K	750	12W	65
16W	2700K	2000	19W	125
	3000K	2000	19W	125
	3500K	2000	19W	125
	4000K	2000	19W	125
24W	2700K	3000	29W	125
	3000K	3000	29W	125
	3500K	3000	29W	125
	4000K	3000	29W	125

MODULE SPECIFICATION:
- Efficacy 65-125 lumens per watt
- Life: L70 50,000 hours
- Color temp: 2700K, 3000K, 3500K and 4000K
- CRI: >90

MODULE DRIVER SPECIFICATION:
- Input Voltage: 120-277 Volts; 50/60Hz
- Dimmable down to 1%
- 0-10V, TRIAC and ELV dimming protocols are standard. (12w is 120v and TRIAC dimming only)
- Output Current: Constant Current; 440mA to 940mA (model dependent)
- Driver Efficiency > 80%; Power Factor > 0.9
- Integral Surge Protection in conformance to ANSI C62.41 Category A.

MODULE LISTINGS
- Fully compliant with the RoHS Directive
- Certifications: CE/UL

WARRANTY

See www.ANPlighting.com for complete fixture warranty.
LED warranty information
- 5 year limited warranty*

*Limited Warranty: A typical year is defined as 4380 hours of operation

© 2020 ANP Lighting. All rights reserved. These specifications are intended for general purposes only. ANP reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.

ANP Lighting — Specifications W520

Project: ______ Fixture Type: ______ Quantity: ______ Customer: ______

6 GLASS & GUARD*
Up to 24w MAX

100GLCL	(Clear Glass)
100GLFR	(Frosted Glass)
100GLPR	(Prismatic Glass)
100GLCLGUP	(Clear Glass & Small Wire Guard)
100GLFRGUP	(Frosted Glass & Small Wire Guard)
100GLPRGUP	(Prismatic Glass & Small Wire Guard)
100GLCLGUPC	(Clear Glass & Cast Guard)
100GLFRGUPC	(Frosted Glass & Cast Guard)
100GLPRGUPC	(Prismatic Glass & Cast Guard)
100GLGUP	(Small Wire Guard with No Glass)
100GLGUPC	(Cast Guard with No Glass)

*Cast or Wire Guard finish will match fixture finish.

7 ACCESSORIES*

*EMG-LED06	(6w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) MUST CHOOSE DCCEM CANOPY IN BOX 4.
*EMG-LED10	(10w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) MUST CHOOSE DCCEM CANOPY IN BOX 4.
*EMG-LED16	(16w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) MUST CHOOSE DCCEM CANOPY IN BOX 4.
*EMG-LED20	(20w, LED Emergency Driver, remote placement, Cree module only. Not applicable for 12w LED) MUST CHOOSE DCCEM CANOPY IN BOX 4.
GR20	(20" Wire Grill)**
PC	(Button Photo Cell) Remote Only
SC	(Scroll for Arms)**
SLC	(Sloped Ceiling Mount Canopy, 20° Max)**
SQ	(Square Back Plate)**
SWL	(Adjustable Locking Swivel)**
TBK	(Turn Buckle Kit)**

*For Emergency lumen output data; see Resources section at www.ANPlighting.com
**Accessory finish will match fixture finish.

8 FINISHES
*Marine Grade Finish has an additional charge

Standard Colors	Standard Gloss	Marine Grade	Premium Colors	Premium Grade	Marine Grade
Aspen Green	10	10M	High Gloss Black	01	01M
Cantaloupe	11	11M	Arctic Silver	14	14M
Lilac	12	12M	Candy Apple Red	64	64M
Putty	13	13M	Cobalt Blue	65	65M
Raw Unfinished	40	NA	Caramel	66	66M
Black	41	41M	Butterscotch	67	67M
Forest Green	42	42M	Black Silver	68	68M
Bright Red	43	43M	Gunmetal Gray	69	69M
White	44	44M	Mayan Gold	79	NA
Bright Blue	45	45M	Textured Desert Stone	80	80M
Sunny Yellow	46	46M	Extreme Chrome	81	81M
Aqua Green	47	47M	Graystone	82	82M
Galvanized	49	NA	Oil Rubbed Bronze	83	83M
Navy	50	50M	Carbon Graphite	96	96M
Architectural Bronze	51	51M			
Patina Verde	52	52M			
Copper Clay	53	53M			
Silver	56	56M			
Black Verde	61	61M			
Painted Chrome	70	70M			
Painted Copper	71	71M			
Textured Black	72	72M			
Matte Black	73	73M			
Textured Architectural	76	76M			
Textured White	77	77M			
Textured Silver	78	78M			

Consult Factory for additional paint charges and availability.

9 VOLTAGE

UNV (120-277)

© 2020 ANP Lighting. All rights reserved. These specifications are intended for general purposes only. ANP reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.

ANP Lighting — Specifications W520

Project: ______ Fixture Type: ______ Quantity: ______ Customer: ______

ARM MOUNTS | Dimensions are Projection x Height | CB included with all arms | Arm will match fixture finish



WALL MOUNTS | Dimensions are Projection x Height | **POST MOUNTS** | Dimensions are Projection x Height



ACCESSORIES



Driver Housings



- RTCW (6 1/2" OD x 5 5/8" H) Wall Only (E-arms)
- RTCNCW (5 7/8" OD x 2 5/8" H) Wall Only (E-arms)
- SRTCW (6" OD x 2 7/8" H) Wall Only (E-arms)
- ST-RTCC (6 1/2" OD x 5 5/8" H) Stem Only
- CRD-RTCC (6 1/2" OD x 5 5/8" H) Cord Only
- SSC-RTCC (6 1/2" OD x 5 5/8" H) Cable Only
- ST-RTCNCC (5 7/8" OD x 2 5/8" H) Stem Only
- CRD-RTCNCC (5 7/8" OD x 2 5/8" H) Cord Only
- SSC-RTCNCC (5 7/8" OD x 2 5/8" H) Cable Only
- ST-SRTCC (6" OD x 2 7/8" H) Stem Only
- CRD-SRTCC (6" OD x 2 7/8" H) Cord Only
- SSC-SRTCC (6" OD x 2 7/8" H) Cable Only
- ST-DCCEM (12" OD x 1 1/2" H) Stem Only
- CRD-DCCEM (12" OD x 1 1/2" H) Cord Only
- SSC-DCCEM (12" OD x 1 1/2" H) Cable Only

GLASS & GUARDS
UP TO 24W MAX

Glass Legend: CL = Clear FR = Frosted PR = Prismatic; 100 = Small 200 = Large



Glass Only (6 1/2" H X 4 1/8" W): 100GLCL, 100GLFR, 100GLPR

Glass with Cast Guard (7 1/2" H X 4 1/8" W): 100GLCLGUPC, 100GLFRGUPC, 100GLPRGUPC

Glass with Wire Guard (7 1/2" H X 4 1/8" W): 100GLCLGUP, 100GLFRGUP, 100GLPRGUP

Guards Only (7 1/2" H X 4 1/8" W): 100GLGUPC (Cast Guard), 100GLGUP (Wire Guard)

© 2020 ANP Lighting. All rights reserved. These specifications are intended for general purposes only. ANP reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.

E3.1

REGISTERED PROFESSIONAL ENGINEER · ROY L. LOPEZ · No. 1344 · Exp. 09/30/22 · ELECTRICAL · STATE OF CALIFORNIA

SALASOBRIEN | expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING FIXTURE CUTSHEETS

NWC CKR & WILDOMAR TR
WILDOMAR, CA

GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

Last saved by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E31.dwg 11/23/2021 11:44
Last plotted by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E31.dwg 04/19/2022 15:54

TYPE ⟨S7⟩

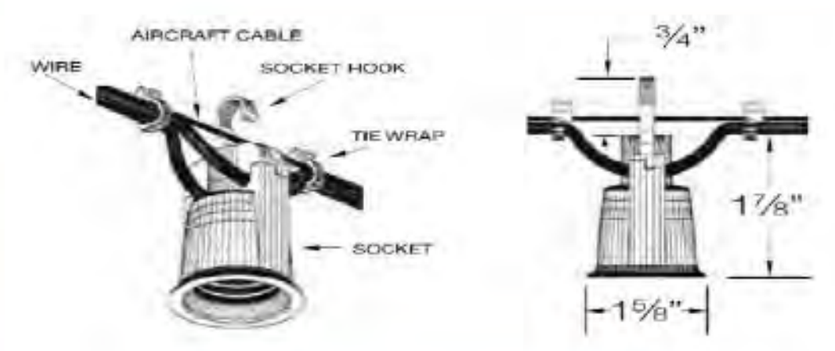
PRIMUS LIGHTING — DECOSTRING SERIES

LED / INCANDESCENT

SUSPENDED DECORATIVE STRINGLIGHT SYSTEMS



PROJECT:
TYPE:



SOCKET, WIRE & CABLE DETAILS

Decostrings are a perfect accent lighting solution to add a personal ambience to patios, courtyards, atriums, restaurants, amusement parks and any open area. The "festoon" lighting system is typically strung between two anchorage points with optional intermediary support and electrically fed from one end. The sockets can be either symmetrically spaced or randomly spaced to suit the application. Optional shades, guards and lenses complete the architectural design.

SPECIFICATIONS

LAMPHOLDER	Black phenolic, medium base UL weatherproof with hook for optional mounting.
WIRE	12/2 G. Black flexible wire rated for 25A max. uv rated for outdoor use and long lasting.
SUPPORT CABLE	1/16" aircraft catenary cable supports the system, 480# test. Heavier cable available. *(See Page 7)*
LAMPS	LED and incandescent medium base A, G or S style lamps. *(See Page 3 for Lamp Options)*
ACCESSORIES	Optional brass, aluminum and acrylic shades. *(See Page 4 & 5 for Shade Options)* Consult factory for custom shades not shown in catalog.
GUIDELINES	Many ways to install and create a design. *(See Page 6 & 7)*
PHOTOMETRY	Bare lamp and shielded "BUG" rated .IES files available. *(See Page 8)* (Consult Factory or Visit Website)
CERTIFICATION	ETL listed for dry or wet and permanent installation. ETL 2001431 MADE IN THE USA
VOLTAGE	120V system (1920 watts max load). No driver or transformer required. (Consult Factory for 12V/24V)
DIMMING	Dimmable down to 10% with leading or trailing edge type dimmers.

PART NUMBER

SERIES	SPACING	VOLTS	LAMP	SHADE-FINISH	TERMINATION KIT	LENGTH
DSD DRY	**12** 12"O/C	**120** 120V	SELECT FROM LAMP PAGE 3	**OPTIONAL**	**STK** STANDARD KIT	SPECIFY
DSW WET	**18** 18"O/C			SELECT FROM PAGE 4 & 5 OR LEAVE BLANK	**TBK** TURN BUCKLE KIT *(SEE PAGE 7)*	
	24 24"O/C					
	36 36"O/C					
	48 48"O/C					
	(OTHER, SPECIFY)					

626.442.4600 • primuslighting.com

PRIMUS LIGHTING — DECOSTRING LAMPS

LED / INCANDESCENT

LED FILAMENT STYLE LAMPS



STOCK
PLED-S14F-24K-150
PLED-S14F-27K-150
FROSTED-*CONSULT FACTORY*
1.5W | 150L



STOCK
PLED-G16.5F-3.5W-24K
PLED-G16.5F-3.5W-27K
3.5W | 325L

PLED-G16.5F-2W-24K
PLED-G16.5F-2W-27K
2W | 200L



A15 & A19
CONSULT FACTORY
SPECIAL ORDER
(SUBJECT TO AVAILABILITY)

S14F VARIOUS COLORS
CONSULT FACTORY *(SPECIAL ORDER)*
(SUBJECT TO AVAILABILITY)

G25
CONSULT FACTORY
SPECIAL ORDER
(SUBJECT TO AVAILABILITY)

** NOTE: LED LAMPS DIM DOWN TO 10% WITH A TRAILING EDGE (ELV) DIMMER.*

INCANDESCENT LAMPS



LE A15 CLEAR 120V 15W
LF A15 CLEAR 120V 25W

LS S14 CLEAR 120V 11W
COLORS AVAILABLE

LH-C G16.5 CLEAR 120V 25W
LH-W G16.5 WHITE 120V 25W

LG S11 CLEAR 120V 7.5W
COLORS AVAILABLE

FULL SPECIFICATION SHEETS AVAILABLE AT PRIMUSLIGHTING.COM.
PHOTOMETRY: BARE LAMP AND SHIELDED "BUG" RATED IES FILES AVAILABLE - CONSULT FACTORY

3570 LEXINGTON AVE. EL MONTE, CA 91731 • PH. 626.442.4600 FAX 626.442.4900 • primuslighting.com

---

TYPE ⟨S8⟩

HYDREL

CATALOG NUMBER
NOTES
TYPE



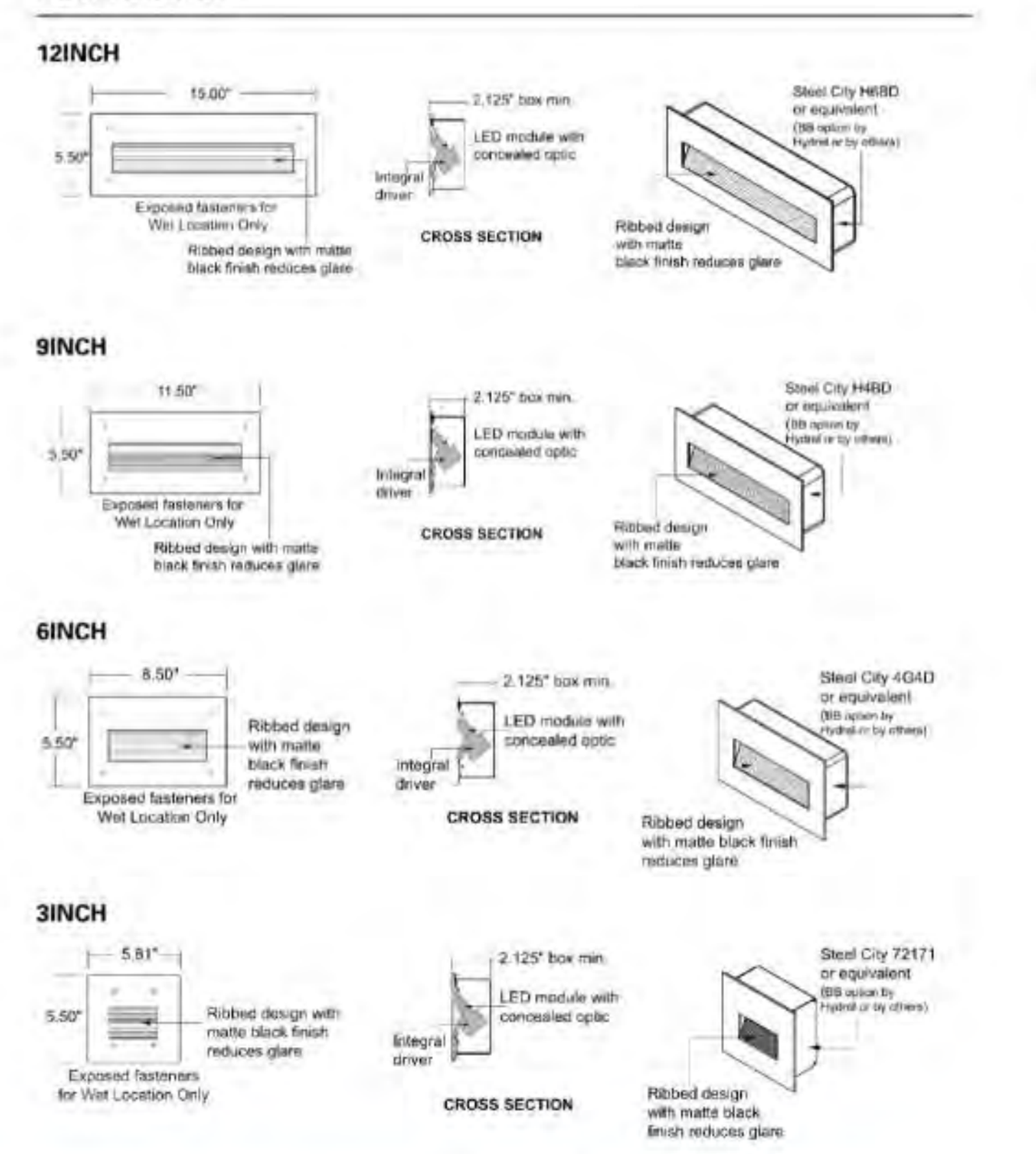
HSL13
Static White and Static Color Step Light 13

HIGHLIGHTS

- Integral Driver
- Long throw distribution
- Standard 0-10V dimming option
- Die-cast housing with solid aluminum, brass, or stainless steel faceplate
- Wet location listed
- Back Box provided by Hydrel or by others

5 YEAR warranty · LED · Buy American

DIMENSIONS



LUMEN PACKAGES

Distribution	Delivered Lumens	Input Watts	Lumens/Watt
3INCH	87	3	29
6INCH	194	5	36
9INCH	299	8	37
12INCH	386	11	37

Performance data based upon 30K LED

HYDREL

ORDERING INFORMATION

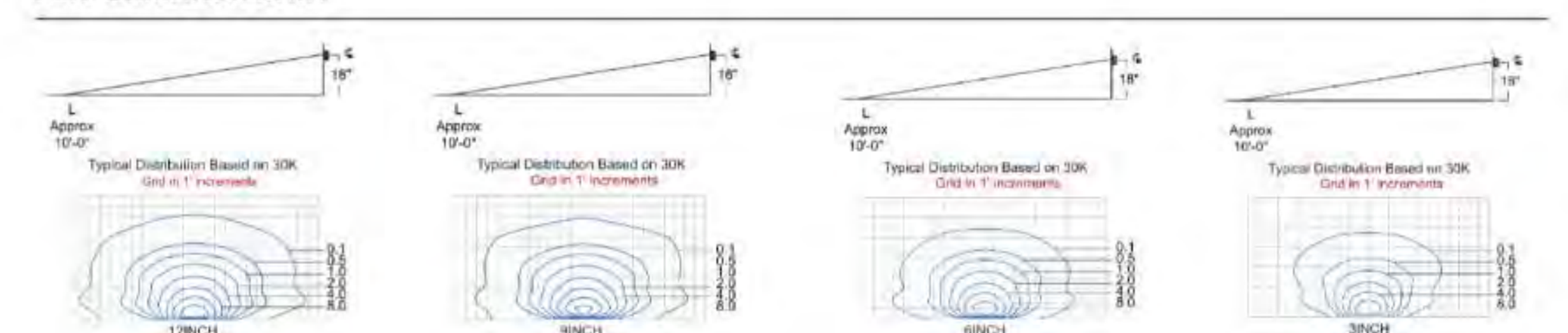
EXAMPLE: HSL13 3INCH LED 27K MVOLT L MINS BRB

Series*	Length*	Source*	Color Temperature*	Voltage*	Distribution*
HSL13 Step Light 13	**3INCH** 3" Nominal Length **6INCH** 6" Nominal Length **9INCH** 9" Nominal Length **12INCH** 12" Nominal Length	**LED**	**27K** 2700K **30K** 3000K **35K** 3500K **40K** 4000K **50K** 5000K **AMBPC** Amber **BLU** Blue **GRN** Green **RED** Red **CYN** Cyan **RDO** Red-Orange	**MVOLT** Multi-Volt 120V thru 277V	**L** Long Throw

Dimming Optional	OPTION	Finish*
MINS Dimming Driver	**BB** Back Box Note: Include BB if you need a back box, otherwise back box is by others.	**BRB** Brushed Brass **BBP** Brushed Brass Paint **BRSS** Brushed Stainless Steel **LBPS** Light Bronze Paint Smooth **PBR** Polished Brass **PSS** Polished Stainless Steel **SGB** Semi Gloss Black **SGW** Semi Gloss White **CF** Custom Finish **RALTBD** Ral Paint Finishes Note: RALTBD for pricing only, replace with applicable RAL call out when ready to order. See the RAL/RCICHOME for available options. It is recommended that Hydrel products only use textured paint.

Note: * is a required field

PERFORMANCE DATA



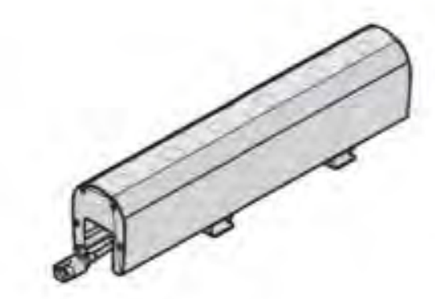
Expected Life: Static White LED: L70 @ 60,000 hours
Static Color LED: L70 @ 60,000 hours

Lumen Multiplier Table for CCT

CCT	Multiplier
27K	0.963
30K	1.000
35K	1.218
40K	1.153
50K	1.208

TYPE ⟨S9⟩

LINEAR ONE EXTERIOR — ACCLAIM LIGHTING



bin·one
ams

Client:
Project:
Type:
Order Code:
Quantity:

With **Linear One,** we set out to produce a series that works with your vision instead of crowding it. Acclaim Lighting continually strives for simple goals during the design process: be useful, stay out of the way, and function wonderfully. Creativity begins with great design and Linear One is streamlined to work for you. We meticulously craft linear lights that install with no visible cables and create the clutter-free space your work deserves. This means that subtlety enhances your aesthetic as Linear One remains hidden while serving as the powerhouse behind your visual creation. Refined to work with your creativity, Linear One provides end-to-end modular functionality that adapts to your needs and never works against them. Acclaim Lighting is motivated by the passion of its users and strives to produce the very best solutions in architectural lighting. We create beautiful products that work for creativity.

SPECIFICATIONS

Colors	2700K, 3000K, 3500K, 4000K (80 CRI or 90 CRI available), Red, Green, Blue, Amber
Beam Angles	10 x 10 , 30 x 30 , 60 x 60 , 100 x 100 , 10 x 25 , 10 x 40 , 10 x 70 , 30 x 60 , 40 x 70
	Asymmetric (60 x 60 + 20 tilt), Batwing (split 10 x 40 or 40 x 70)
Housing Lengths	1' (304.8mm), 4' (1219.2mm)
Control	0-100% dimming via internal 0-10V driver, DMX via optional UDM, wireless via optional Aria
Max Fixtures in Series	80' (24m)
Power Consumption	**1':** 12W, **4':** 48W
Operating Voltage	100-277VAC, 50/60 Hz
Lumen Maintenance	L70 @ 150,000 hours (25 C)
Mounting	90 mounting bracket included, flat mounting bracket optional
Finish	Silver / finished aluminum, marine and natatorium environment capability standard
Material	Aluminum body - Type III hard coat anodized, polycarbonate lens
Ambient Operating Temperature	-40 F to 131 F (-40 C to 55 C)
IP Rating	IP66, wet location - marine enviornment housing standard
IK Rating	IK10, protection against 5 joule impact (40cm distance)
Fixture Connectors	IP66 End to end multi-pin connection cables included
Warranty	5 Years, limited
Weight	**1':** 2.4 lbs, **4':** 9.7 lbs
Dimensions	**L:** 12" / 48" **W:** 2.12" **H:** 3.39" (L: 305 / 1220 W: 54 H: 86.2mm)
Certifications	ETL CE

LINEAR ONE EXTERIOR — ACCLAIM LIGHTING

ORDER CODES

* indicates special order

LNE# - COL# - OPT#

Length:
A = 1'
D = 4'

Color & CRI:
A = 2700K, 80 CRI
C = 3000K, 80 CRI
D = 3500K, 80 CRI
E = 4000K, 80 CRI
F = 2700K, 90 CRI*
G = 3000K, 90 CRI*
H = 3500K, 90 CRI*
J = 4000K, 90 CRI*
K = Red
L = Green
M = Blue
N = Amber

Optics:
C = 10 x 10
G = 30 x 30
K = 60 x 60
L = 100 x 100
M = 10 x 40
N = 10 x 25
R = 10 x 60
Q = 30 x 60
S = 45 x 75
T = Asymmetric WallWash (60 x 60 + 20 tilt)
V = Batwing (split 10 x 40)
W = Batwing (split 45 x 75)

RELATED COMPONENTS

Feed Cables



LNFC10
10' Feed Cable for Linear One Exterior
Multi-pin connector to bare wire AC + 0-10V

LNFC50
50' Feed Cable for Linear One Exterior
Multi-pin connector to bare wire AC + 0-10V

Link Cables



LNLC0
6" Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector, use for curved runs

LNLC1
1' Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector

LNLC5
5' Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector

LNLC10
10' Link Cable for Linear One Exterior
Multi-pin connector to multi-pin connector

TYPE ⟨S9⟩ (CONT.)

LINEAR ONE EXTERIOR — ACCLAIM LIGHTING

RELATED COMPONENTS

Optional Mounting Accessories



LNMT1
1' mounting track for Linear One
Aluminum profile, screws not included

LNMT4
4' mounting track for Linear One
Aluminum profile, screws not included



LNEB1
1' extender bar for Linear One
Aluminum body, screws not included

LNEB2
2' extender bar for Linear One
Aluminum body, screws not included

LNEB3
3' extender bar for Linear One
Aluminum body, screws not included



LNFMB
Flat Mounting Bracket for Linear One
2 pcs required per fixture, factory fitted option

Optional Beam Accessories



LNEGS1
1' single sided glare shield for Linear One Exterior

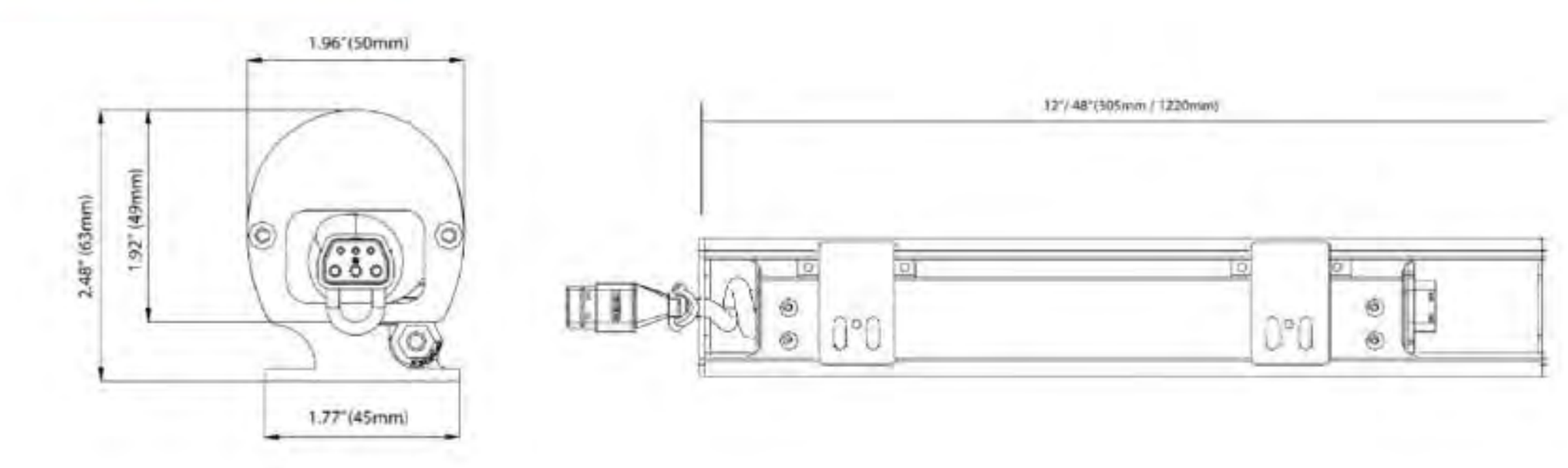
LNEGS4
4' single sided glare shield for Linear One Exterior



LNELV1
1' full louver for Linear One Exterior (use 4 pcs. for 4' fixture)

LINEAR ONE EXTERIOR — ACCLAIM LIGHTING

DIMENSIONS



PHOTOMETRICS

80 CRI Versions, 10 x 10 , 1'

Color	Lumens(per foot)	Max Candela	Efficacy (l/pw)	CRI	TM30
2700K	739	5643	63	81.1	81.2
3000K	788	6291	67	82.8	81.3
3500K	772	5897	66	84.3	82.6
4000K	770	5790	65	85.4	83.2

90 CRI Versions, 10 x 10 , 1'

Color	Lumens(per foot)	Max Candela	Efficacy (l/pw)	CRI	TM30
2700K	574	4577	49	90.6	93
3000K	544	3844	47	93	89.2
3500K	569	4012	48	93.8	88.7
4000K	579	4703	48	90.1	90

Last saved by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E32.dwg 11/23/2021 11:44
Last plotted by ramon.benjamin Layout1 P:\2021\2021-03779\Cad\1_ENTITLEMENT\P21034_E32.dwg 04/19/2022 15:53

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

E3.2



SALASOBRIEN
| expect a difference |
8825 RESEARCH DRIVE
IRVINE, CA 92618
TEL: (949) 753-1553
#2021-03779/P21034
04-19-22
www.salasobrien.com
E-Mail mail@ombengrs.com
DP | JVP | RB

SITE LIGHTING FIXTURE CUTSHEETS

NWC CKR & WILDOMAR TR
WILDOMAR, CA
GKPA PROJECT #21108.01
21 APRIL 2022

INTRACORP
895 DOVE STREET, NEWPORT BEACH, CA 92660
949.293.5737

EE

AO Architecture. Design. Relationships.
144 N. ORANGE STREET, ORANGE, CA 92866
714.639.9860

SAGE INVESTCO
3837 BIRCH STREET
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021



CONCEPTUAL PERSPECTIVE

WILDOMAR CROSSROADS

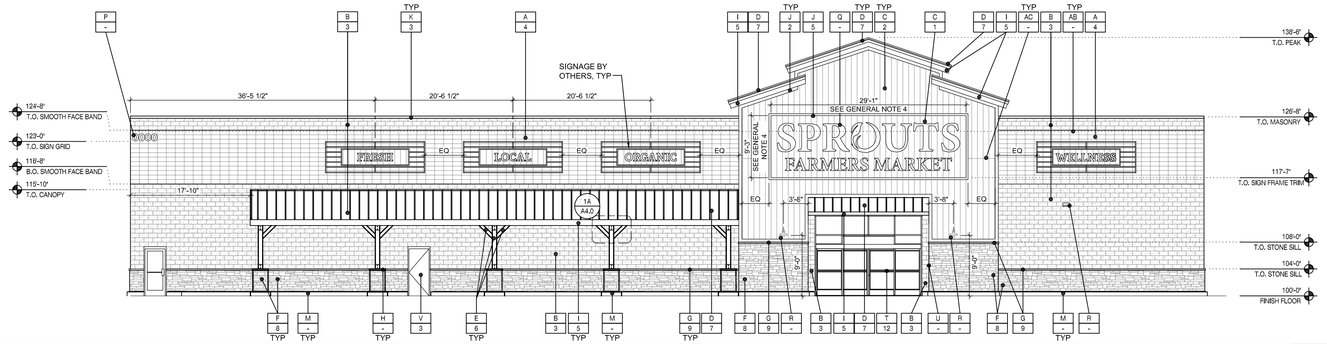
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

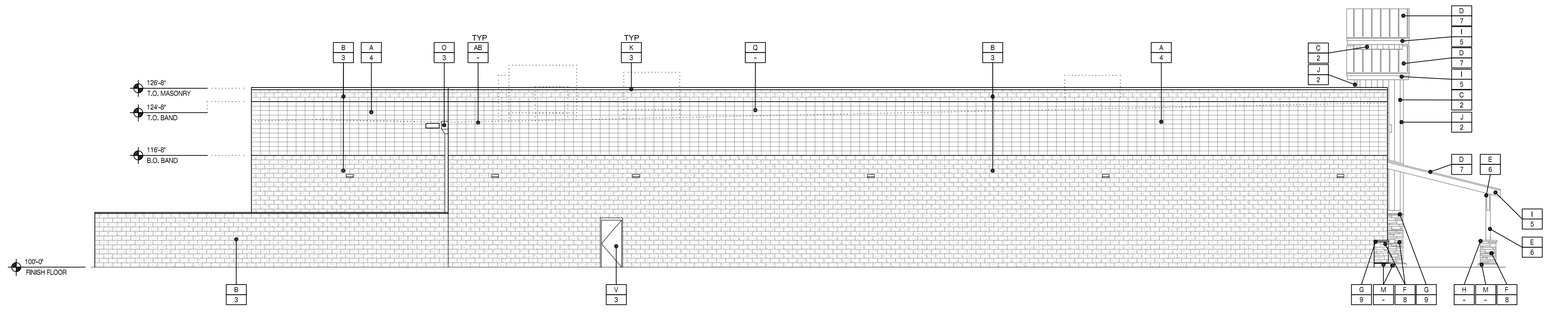
AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



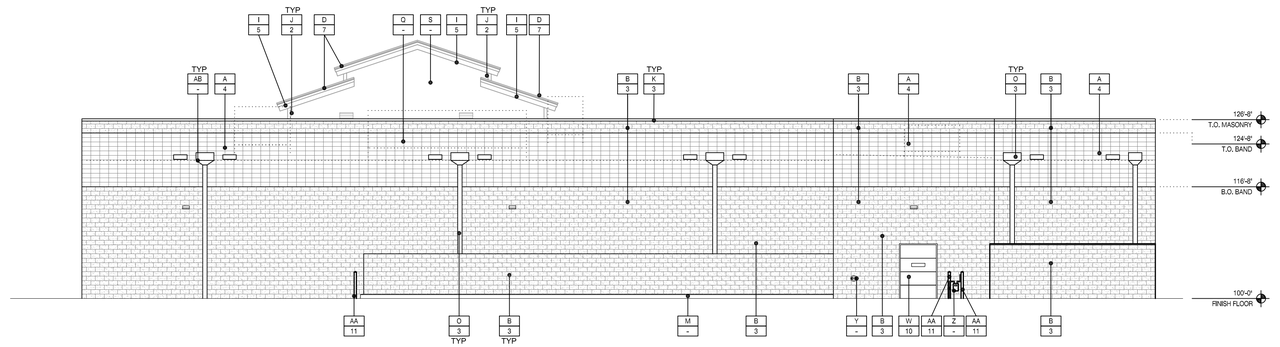
FRONT (SOUTH) ELEVATION

SCALE: 3/32" = 1'-0" — 1



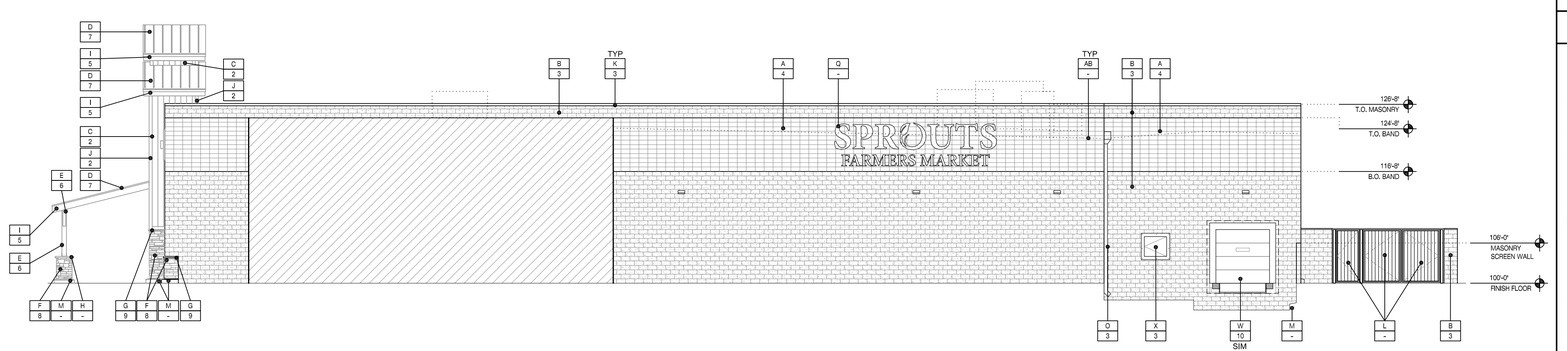
SIDE (WEST) ELEVATION

SCALE: 3/32" = 1'-0" — 2



REAR (NORTH) ELEVATION

SCALE: 3/32" = 1'-0" — 3



SIDE (EAST) ELEVATION

SCALE: 3/32" = 1'-0" — 4

MATERIAL KEYNOTES:

A	SMOOTH FACE C.M.U. BLOCK - STACKED BOND
B	SPLIT FACE C.M.U. BLOCK - RUNNING BOND
C	HARDIE BOARD ARTISAN SQUARE CHANNEL SIDING - VERTICAL
D	BERRIDGE STANDING SEAM ROOFING
E	SOLID WOOD
F	CORONADO STONE VENEER
G	CORONADO STONE SILL
H	PRECAST CONCRETE CAP - AT COLUMNS ONLY
I	HARDIE BOARD FIBER CEMENT FASCIA TRIM
J	HARDIE BOARD ARTISAN FIBER CEMENT TRIM
K	METAL - PAINTED
L	BLACK ORNAMENTAL METAL FENCE
M	CONCRETE CURB
N	NOT USED
O	ROOF DRAIN, DOWN SPOUT, AND ROOF OVERFLOW SCUPPER. PAINT TO MATCH ADJACENT SURFACE. U.N.O.
P	BUILDING ADDRESS, VERIFY NUMBERS, LOCATION AND HEIGHT WITH FIRE MARSHAL (12" HIGH MIN.) NUMBERS MUST CONTRAST WITH BACKGROUND
Q	LOCATION OF FUTURE SIGN - GENERAL CONTRACTOR TO INSTALL J-BOX FOR EACH SIGN, SIGNAGE UNDER SEPARATE PERMIT
R	LIGHT FIXTURE REF. ELECTRICAL.
S	PARAPET WATERPROOFING MEMBRANE
T	AUTOMATIC SLIDING DOORS. G.C. SHALL WRAP EXTERIOR SIDE OF ANY WOOD BLOCKING OR SHIMS WITH BRAKE METAL MATCHING STOREFRONT FINISH.
U	KNOX BOX - MOUNT AT +52" ABOVE FINISH FLOOR CONFIRM FINAL LOCATION WITH AHJ.
V	HOLLOW METAL DOOR AND FRAME. PAINT TO MATCH ADJACENT SURFACE..
W	OVERHEAD DOOR AND FRAME - AT SIM. CONDITION OVERHEAD DOOR AND FRAME AND DOCK SEALS. PROVIDE 16" OF SMOOTH FACE BLOCK AROUND ENTIRE OVERHEAD SIM DOOR.
X	COMPACTOR DOOR.
Y	FIRE DEPARTMENT CONNECTION
Z	GAS METER, PAINT TO MATCH ADJACENT WALL OR COLOR AS REQUIRED BY AHJ. ENSURE IT IS LABELED PER AHJ REQUIREMENTS.
AA	BOLLARD
AB	LINE OF ROOF BEYOND, HVAC, AND REFRIGERATION SHOWN DOTTED

COLOR SCHEDULE:

1	PPG - 1099-1 - ALWAYS ALMOND
2	PPG - 1142-6 - JERICHO JADE
3	PPG - 1028-6 - MOMENTUM
4	PPG - 1032-2 - HURRICANE HAZE
5	PPG - 1005-7 - DARK GRANITE
6	FLOOD WOOD STAIN - SEMI-TRANSPARENT - TOBACCO
7	BERRIDGE - AGED BRONZE
8	CORONADO - OLD WORLD LEDGE - MONARCH
9	CORONADO - 900 SERIES - GREY
10	PREFINISHED BY MFR. - WHITE
11	TRAFFIC YELLOW
12	DARK BRONZE

GENERAL NOTES:

1. GENERAL CONTRACTOR TO VERIFY MOUNTING HEIGHT WITH ARCHITECT PRIOR TO INSTALLATION OF ALL PERIMETER WALL PACK LIGHTING. (16'-0" ABOVE FINISH FLOOR TYPICAL U.N.O.).
2. HOLLOW METAL DOORS / OVERHEAD DOORS, DOWNSPOUTS, AND GUTTERS - PAINT TO MATCH ADJACENT WALL.
3. ALL SIGNAGE UNDER SEPARATE PERMIT. COORD. W/ SIGNAGE VENDOR
4. EXTENTS OF FIBER CEMENT TRIM SURROUND ARE SHOWN FOR BIDDING PURPOSES. PRIOR TO INSTALLATION OF FURRING CHANNELS AND FINISH MATERIALS GC SHALL COORDINATE WITH SIGNAGE VENDOR AND ARCHITECT TO CONFIRM REQUIRED DIMENSIONS. EXTENTS OF FIBER CEMENT TRIM SURROUND VARY WITH SIZE OF SIGN ALLOWED BY AHJ.
5. GRIND ALL METAL EDGES (INCLUDING TRIM AND FLASHING) FOR A SMOOTH FINISH.
6. PROVIDE JUNCTION BOXES FOR MAIN SIGN AND (4) ADDITIONAL JUNCTION BOXES FOR FUTURE SIGNS. REF. ELECTRICAL. VERIFY LOCATIONS AND NUMBER OF SIGNS WITH SPROUTS PRIOR TO INSTALLATION.
7. GENERAL CONTRACTOR TO POWER WASH EXTERIOR WALLS AND ENTRANCE WALK AT A MINIMUM PRIOR TO STORE OPENING.
8. GENERAL CONTRACTOR TO COORDINATE INSTALLATION OF "NOW HIRING" & "COMING SOON" BANNER 80-DAYS PRIOR TO OPENING.
9. GENERAL CONTRACTOR TO COORDINATE INSTALLATION OF "OPENING DATE" BANNER 30-DAYS PRIOR TO OPENING.
10. PROVIDE CONTROL JOINTS IN CMU WALLS AS LOCATED BY STRUCTURAL.

62931034

COPYRIGHT NOTICE:
THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE CONTEMPORANEOUSLY WITH ITS ISSUE DATE AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

brr
ARCHITECT OF RECORD: MARIAN B. MEYER
8131 METCALF AVENUE, SUITE 350, OVERLAND PARK, KANSAS 66204

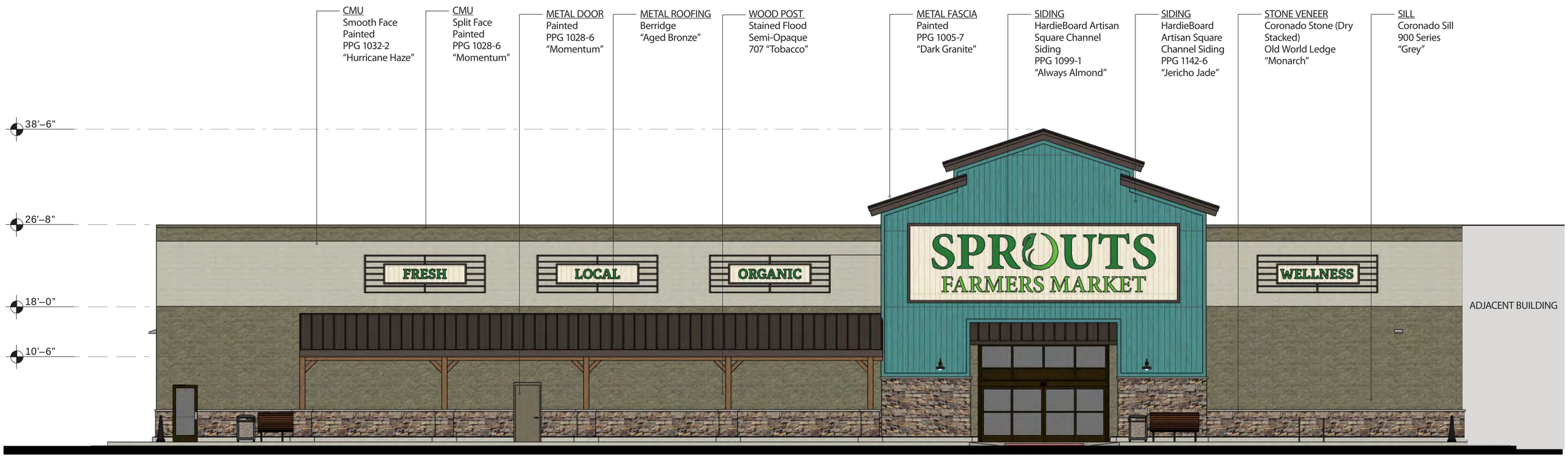
SPROUTS FARMERS MARKET
WILDOMAR, CA 92595

SPROUTS FARMERS MARKET
BUILD TO SUIT (NBTS)
WILDOMAR, CA (#462)

PRELIMINARY EXTERIOR ELEVATIONS

DATE:	04-18-22
DRAWN BY:	MMM
CHECKED BY:	
SCALE:	AS NOTED
PROJECT NUMBER:	62931034
SHEET:	PA4.0
REV:	

2702



Front Elevation

NTS

5′ 10′ 20′ 30′ 50′

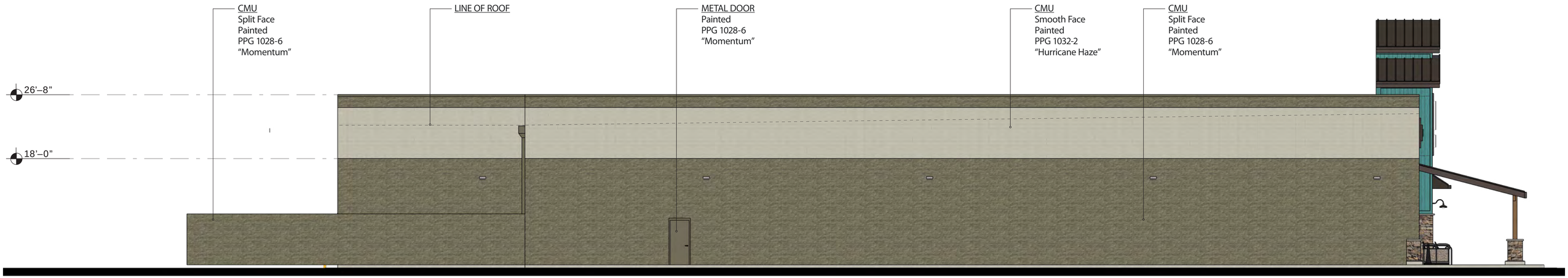
Sprouts Farmers Market | Wildomar (CA)

Exterior Elevations

June 10, 2022

DESIGN REPRESENTATION ONLY - NOT FOR CONSTRUCTION - The images provided throughout this package are a representation of the current design intent only. The images may not reflect variations in color, tone, hue, tine, shading, ambient light intensity, materials, texture, contrast, font style and construction variations required by building codes or inspectors, material availability or final design detailing. All images and artwork associated/provided should be reviewed by the client with their print and/or production vendors and adjusted as needed during the proof and shop drawing submittals. Those client-approved drawings take precedence and provide final direction for design, printing and production.

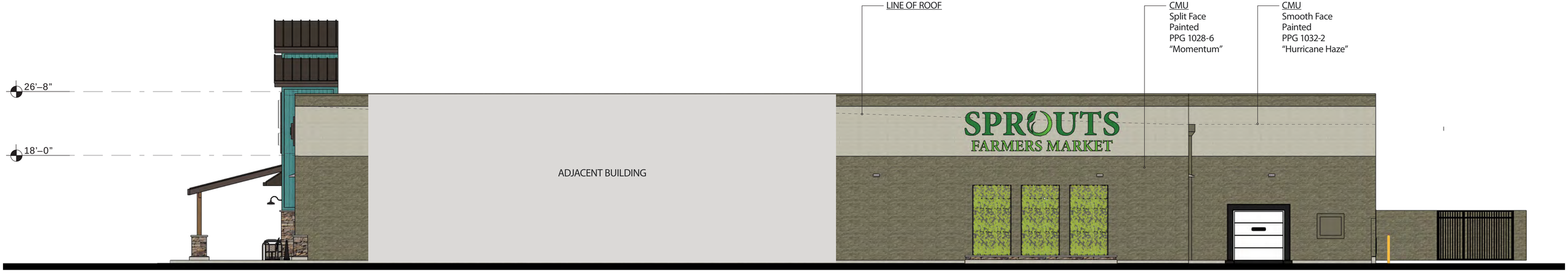
brr



Left Elevation

NTS

5′ 10′ 20′ 30′ 50′



Right Elevation

NTS

5′ 10′ 20′ 30′ 50′

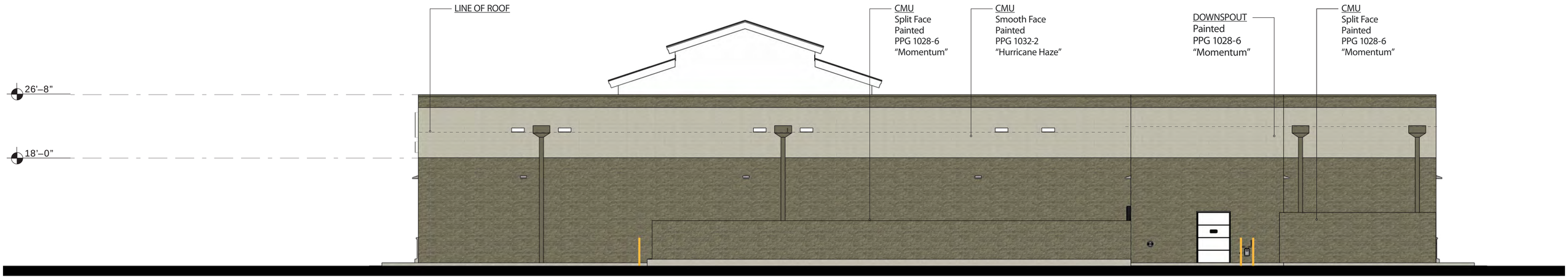
Sprouts Farmers Market | Wildomar (CA)

Exterior Elevations

June 10, 2022

DESIGN REPRESENTATION ONLY - NOT FOR CONSTRUCTION - The images provided throughout this package are a representation of the current design intent only. The images may not reflect variations in color, tone, hue, tine, shading, ambient light intensity, materials, texture, contrast, font style and construction variations required by building codes or inspectors, material availability or final design detailing. All images and artwork associated/provided should be reviewed by the client with their print and/or production vendors and adjusted as needed during the proof and shop drawing submittals. Those client-approved drawings take precedence and provide final direction for design, printing and production.

brr



Rear Elevation

NTS

5′ 10′ 20′ 30′ 50′

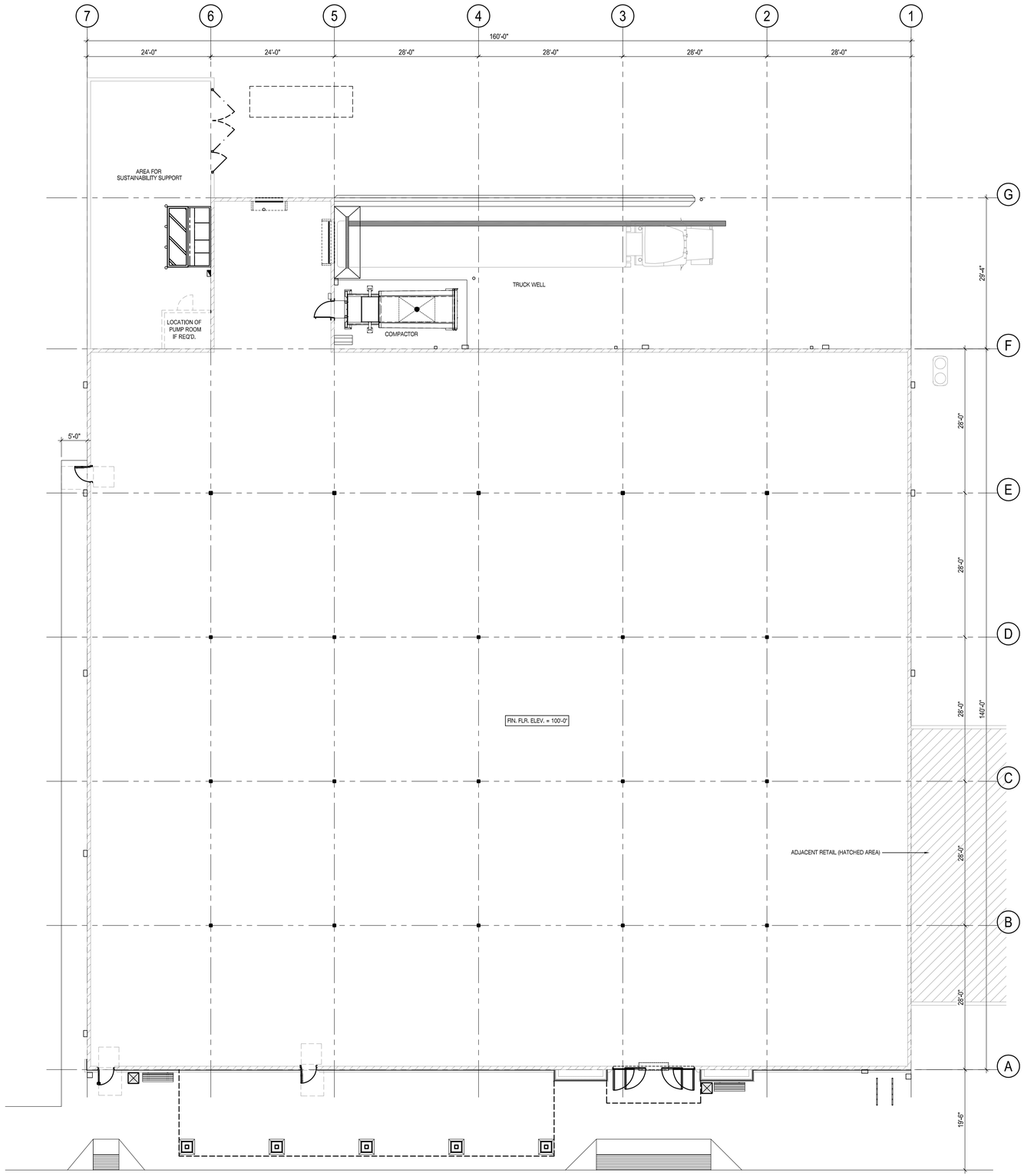
Sprouts Farmers Market | Wildomar (CA)

Exterior Elevations

June 10, 2022

DESIGN REPRESENTATION ONLY - NOT FOR CONSTRUCTION - The images provided throughout this package are a representation of the current design intent only. The images may not reflect variations in color, tone, hue, tine, shading, ambient light intensity, materials, texture, contrast, font style and construction variations required by building codes or inspectors, material availability or final design detailing. All images and artwork associated/provided should be reviewed by the client with their print and/or production vendors and adjusted as needed during the proof and shop drawing submittals. Those client-approved drawings take precedence and provide final direction for design, printing and production.

brr



PRELIMINARY FLOOR PLAN

SCALE: 3/32" = 1'-0" | 1

62931034

COPYRIGHT NOTICE:
THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE CONTEMPORANEOUSLY WITH ITS ISSUE DATE AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

brr
ARCHITECT OF RECORD: MARIAH B. MEYER
8131 METCALF AVENUE, SUITE 550, OVERLAND PARK, KANSAS 66204

SPROUTS FARMERS MARKET
WILDOMAR, CA 92595

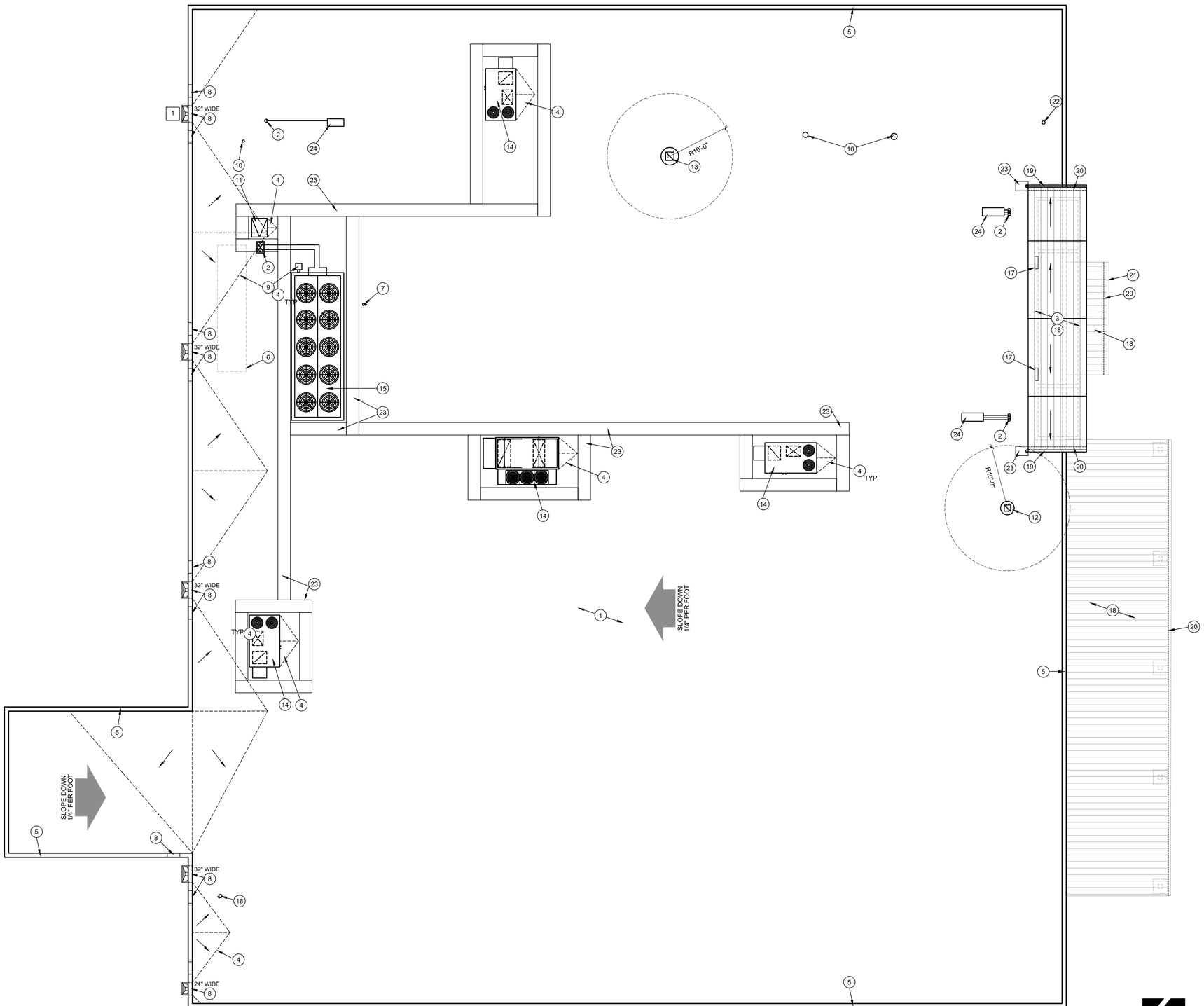
SPROUTS FARMERS MARKET
BUILD TO SUIT (NBTS)
WILDOMAR, CA (#462)

PRELIMINARY FLOOR PLAN

DATE:	04-18-22
DRAWN BY:	MMM
CHECKED BY:	
SCALE:	AS NOTED
PROJECT NUMBER:	62931034
SHEET:	PA1.0
REV:	

NORTH

2706



KEYNOTES:

1. CLASS 'A' SINGLE PLY T.P.O. ROOF WITH R-30 INSULATION ON METAL ROOF DECK. REF SPECS.
2. PROVIDE OPENING IN ROOF FOR REFRIGERATION LINES
3. TOWER STRUCTURE SHOWN DASHED BELOW.
4. ROOF CRICKET, WOOD FRAME OR RIGID INSULATION FOR 1/4" PER FOOT SLOPE MINIMUM.
5. 24 GAUGE METAL FLASHING AT PARAPET - PAINT.
6. LINE OF REFRIGERATION RACKS BELOW.
7. HOSE BIB 6" ABOVE FINISH ROOF.
8. PRIMARY SCUPPER (SEE PLAN FOR SIZE) & 24" ADJACENT OVERFLOW SCUPPER.
9. WEATHER STATION BY REFRIGERATION CONTRACTOR. VERIFY LOCATION WITH REFRIGERATION DRAWINGS.
10. FLUE / VENT THRU ROOF. MIN. 2'-0" FROM PARAPET, 10'-0" FROM AIR-INTAKE ON HVAC UNITS.
11. ROOF ACCESS HATCH AND LADDER.
12. RESTROOM EXHAUST FAN.
13. ONE HOUR FIRE RATED EXHAUST HOOD DUCT SHAFT ENCLOSURE.
14. HVAC UNIT. FOR CURB.
15. REFRIGERATION EQUIPMENT ON ROOF. FOR LEVEL STEEL PLATFORM.
16. COMBUSTION AIR INTAKE.
17. LOUVERED ACCESS PANEL AT BACK OF TOWER.
18. STANDING SEAM METAL ROOF ON (2) LAYER 30# FELT ON EXTERIOR SHEATHING OVER METAL FRAMING.
19. 4" x 4" BOX SHAPE, METAL GUTTER WITH 2" DIAMETER DOWNSPOUT. INCLUDE SPLASH GUARD AT ROOF, INSTALLED DIRECTLY UNDER DOWNSPOUT.
20. SNOW GUARD RAILS (IN ZONES 4 AND COLDER) ON STANDING SEAM ROOF WITH TABS EXTENDING DOWN BETWEEN RAISED SNAP-LOCK SEAMS.
21. 4" x 4" BOX SHAPE, METAL GUTTER. INSTALL LEVEL AND PROVIDE DRAINAGE HOLE AT THE BOTTOM OF EACH END.
22. COMMUNICATION ANTENNA; G.C. TO PROVIDE 2" CONDUIT, PULL STRING AND WEATHER PROOF ROOF JACK FOR COAT CABLE.
23. WALKWAY PADS TYPICAL.
24. CONDENSING UNIT. REF MECHANICAL.

GENERAL NOTES:

1. SEE MECHANICAL AND PLUMBING DRAWINGS FOR ADDITIONAL NOTES AND DETAILS.
2. VERIFY LOCATIONS OF ALL ROOF PENETRATIONS WITH STRUCTURAL, PLUMBING, MECHANICAL AND ARCHITECTURAL DRAWINGS.
3. ALL EQUIPMENT ON ROOF TO BE MOUNTED ON LEVEL CURBS.
4. ALL VENT LOCATIONS TO BE COORDINATED WITH PLUMBING AND MECHANICAL DRAWINGS.
5. EXHAUST FANS AND VENTS TO BE LOCATED A MINIMUM OF 10'-0" FROM HVAC INTAKE. VERIFY ALL LOCATIONS WITH PLUMBING AND MECHANICAL DRAWINGS.
6. ALL MECHANICAL DUCT DROP LOCATIONS DIMENSIONED TO CENTER OF HVAC OPENING. VERIFY EXACT LOCATION. INTENT OF LAYOUT IS TO ALIGN EDGE OF CURB ON STRUCTURAL PURLIN. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
7. MECHANICAL SUBCONTRACTOR TO COORDINATE INSTALLATION AND ACCEPTANCE OF PREFABRICATED CURBS AND PENETRATIONS WITH ROOF MEMBRANE SUBCONTRACTOR. GENERAL CONTRACTOR TO PROVIDE ALL NECESSARY BLOCKING, NAILING, ETC. AS NECESSARY FOR A WATERTIGHT AND WATERPROOF BUILDING.
8. IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO VERIFY, COORDINATE AND / OR INSTALL ALL ADJACENT AND / OR RELATED FLASHING, BLOCKING, NAILERS, CRICKETS, ETC. NECESSARY FOR THE COMPLETE INSTALLATION OF THE ROOF MEMBRANE WHICH IS REQUIRED FOR A COMPLETE, WARRANTED, WATERTIGHT, WATERPROOF INSTALLATION.
9. IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO VERIFY HEIGHT ELEVATION OF ROOF DECK AND ENTRY GABLE WITH STRUCTURAL DRAWINGS.
10. ROOF PENETRATIONS TO BE MINIMUM 2'-0" FROM EDGE OF ROOF OR PARAPETS.
11. GENERAL CONTRACTOR TO PROVIDE ONE (1) 3/4" CONDUIT FOR MUZAK COAXIAL CABLE PENETRATION. VERIFY EXACT LOCATION WITH SPROUTS. (LOCATE, CLOSE AS POSSIBLE, TO MANAGER'S OFFICE).
12. WOOD BLOCKING UNDER MANUFACTURED CURBS IS TO BE FLUSH WITH TOP OF RIGID (ROOF) INSULATION (MINIMUM) AND IS TO BE FLAT AND LEVEL. PROVIDE 5 1/2" MINIMUM WIDTH FRAMING AS NECESSARY FULL PERIMETER OF OPENING.
13. GENERAL CONTRACTOR TO PROVIDE WALKWAY PADS AROUND ALL ROOFTOP EQUIPMENT WITH A CONNECTED PATH LEADING TO THE ROOF HATCH.

62931034

COPYRIGHT NOTICE:
THIS DRAWING WAS PREPARED FOR USE ON A SPECIFIC SITE CONTEMPORANEOUSLY WITH ITS ISSUE DATE AND IT IS NOT SUITABLE FOR USE ON A DIFFERENT PROJECT SITE OR AT A LATER TIME. USE OF THIS DRAWING FOR REFERENCE OR EXAMPLE ON ANOTHER PROJECT REQUIRES THE SERVICES OF PROPERLY LICENSED ARCHITECTS AND ENGINEERS. REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT AUTHORIZED AND MAY BE CONTRARY TO THE LAW.

brr
ARCHITECT OF RECORD: MARIAH B. MEYER
8131 METCALF AVENUE, SUITE 300, OVERLAND PARK, KANSAS 66204

SPROUTS FARMERS MARKET
WILDOMAR, CA 92595

SPROUTS FARMERS MARKET
BUILD TO SUIT (NBTS)
WILDOMAR, CA (#462)

PRELIMINARY ROOF PLAN

DATE:	04-18-22
DRAWN BY:	MMM
CHECKED BY:	XX
SCALE:	
PROJECT NUMBER:	62931034

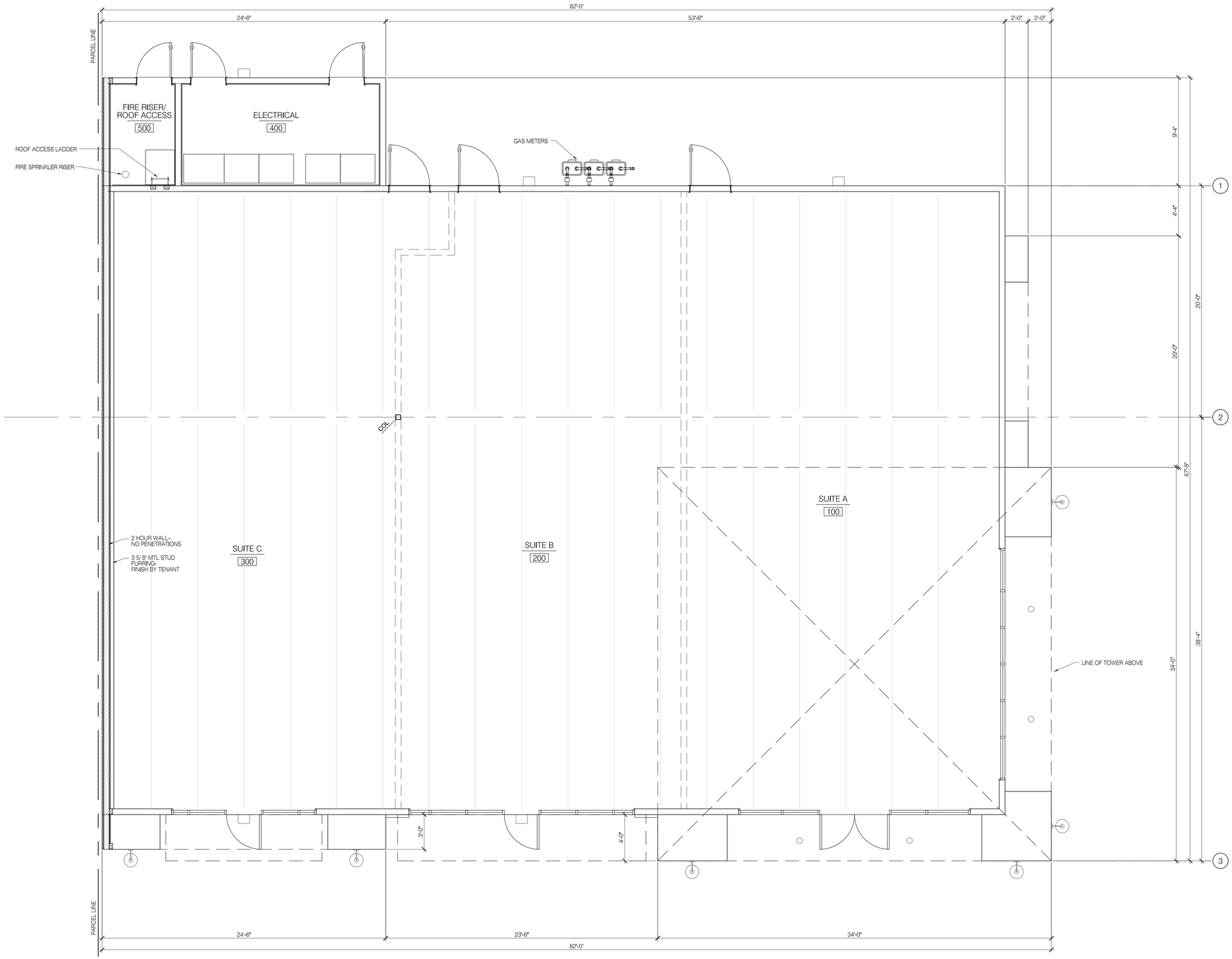
SHEET: PA3.0

REV:

PRELIMINARY ROOF PLAN

SCALE: 1/8" = 1'-0"

1



PROJECT DATA

2019 CBC

BUILDING AREA:	4,213 SF
TYPE OF CONSTRUCTION:	V-N (FIRE SPRINKLERED)
OCCUPANCY:	M, A-2, B

SHOPS 1
FLOOR PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

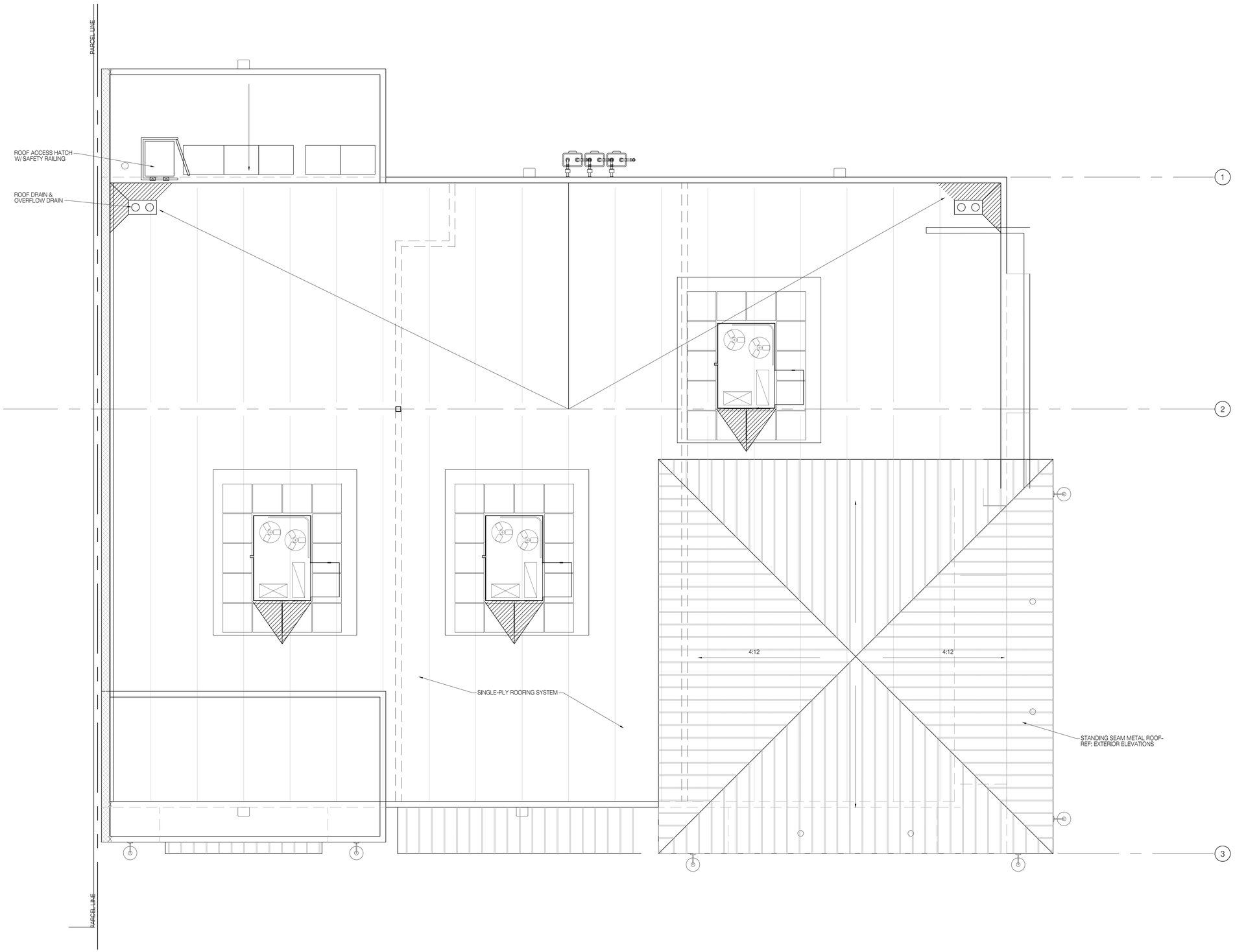
WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKPIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



SHOPS 1
ROOF PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

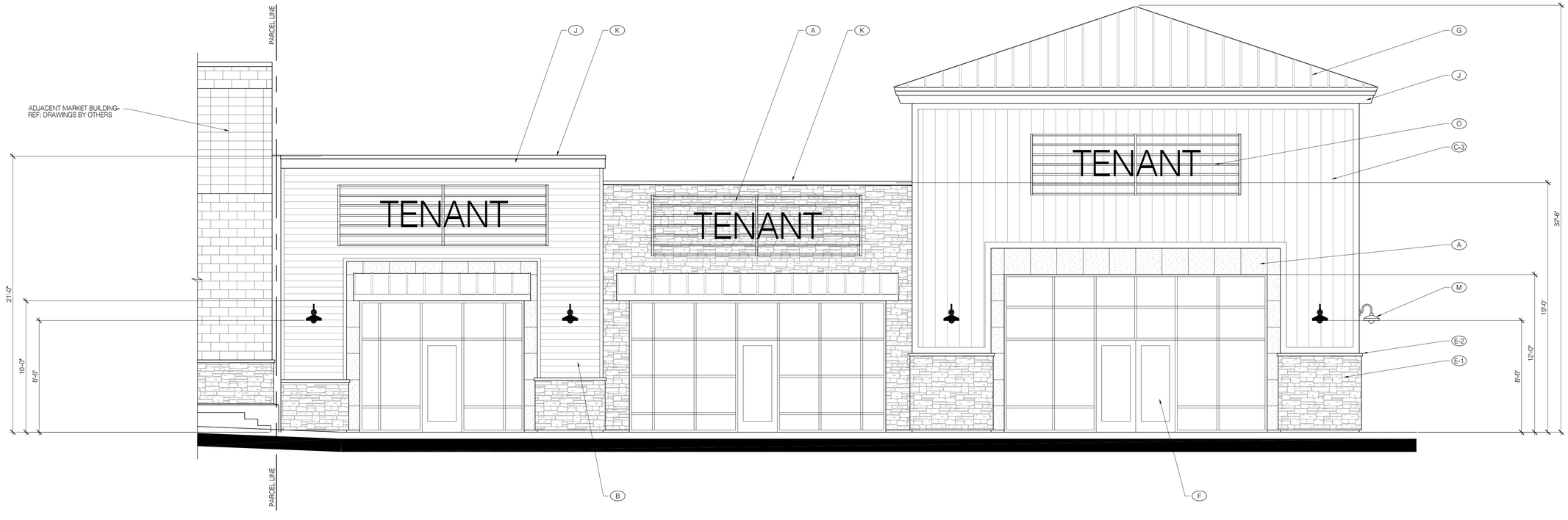
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

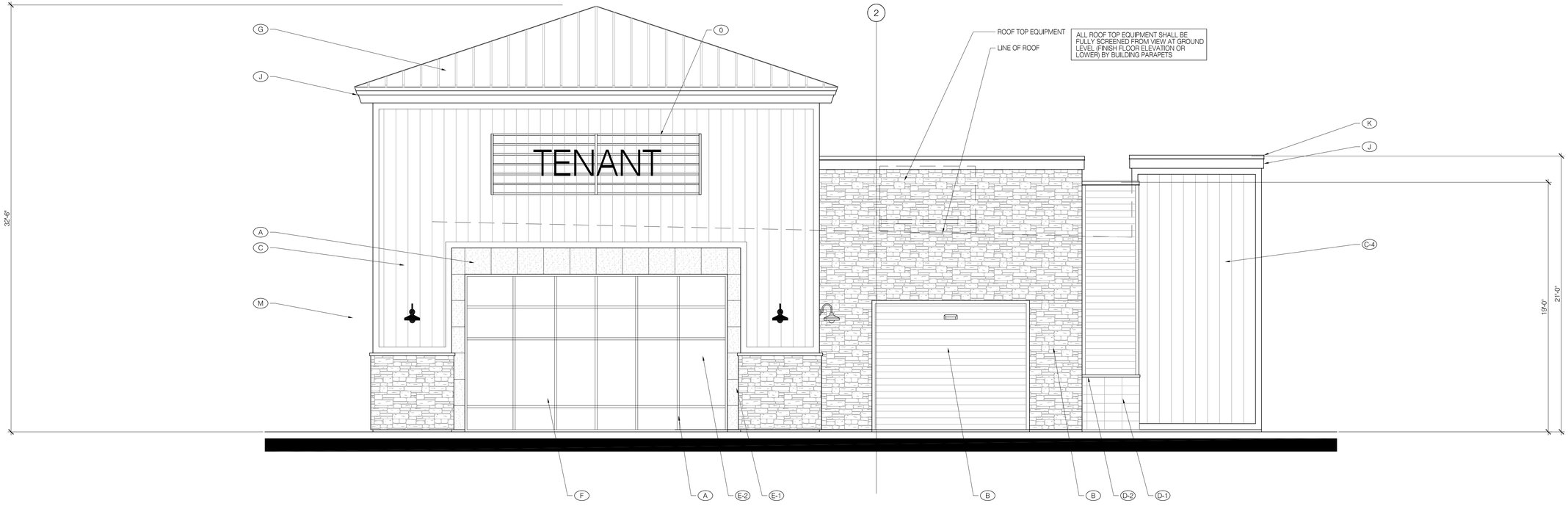
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SOUTH ELEVATION



EAST (WILDOMAR TRAIL) ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#/MF-#/L40K-UL-BZ

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

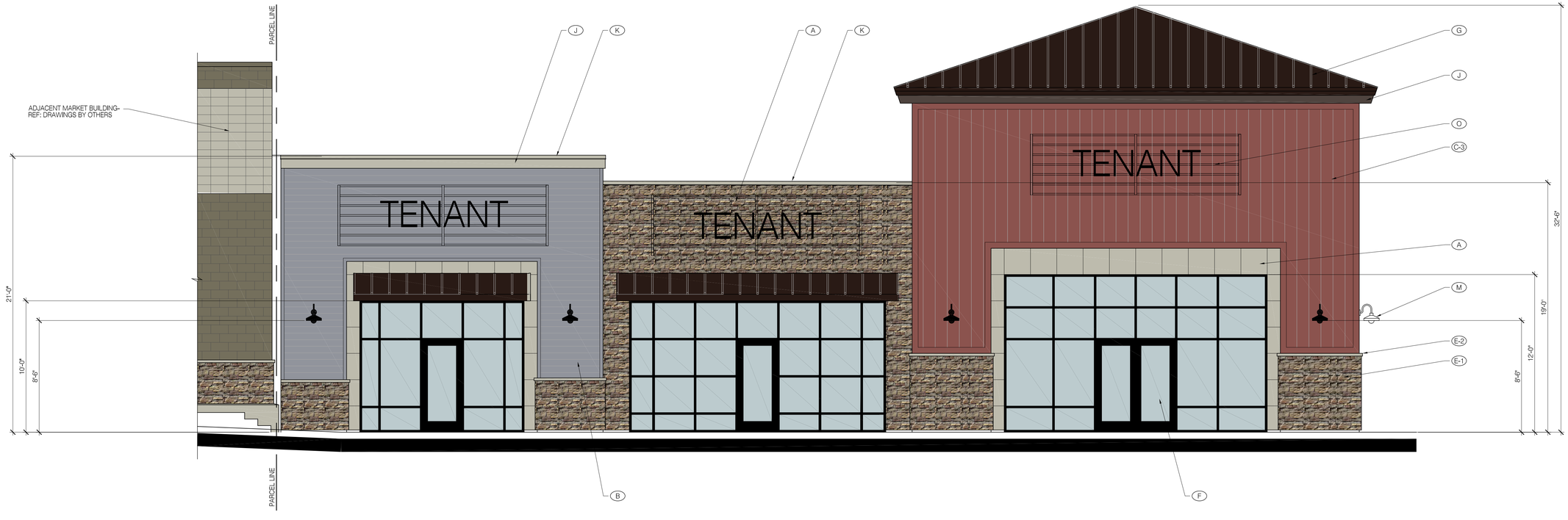
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

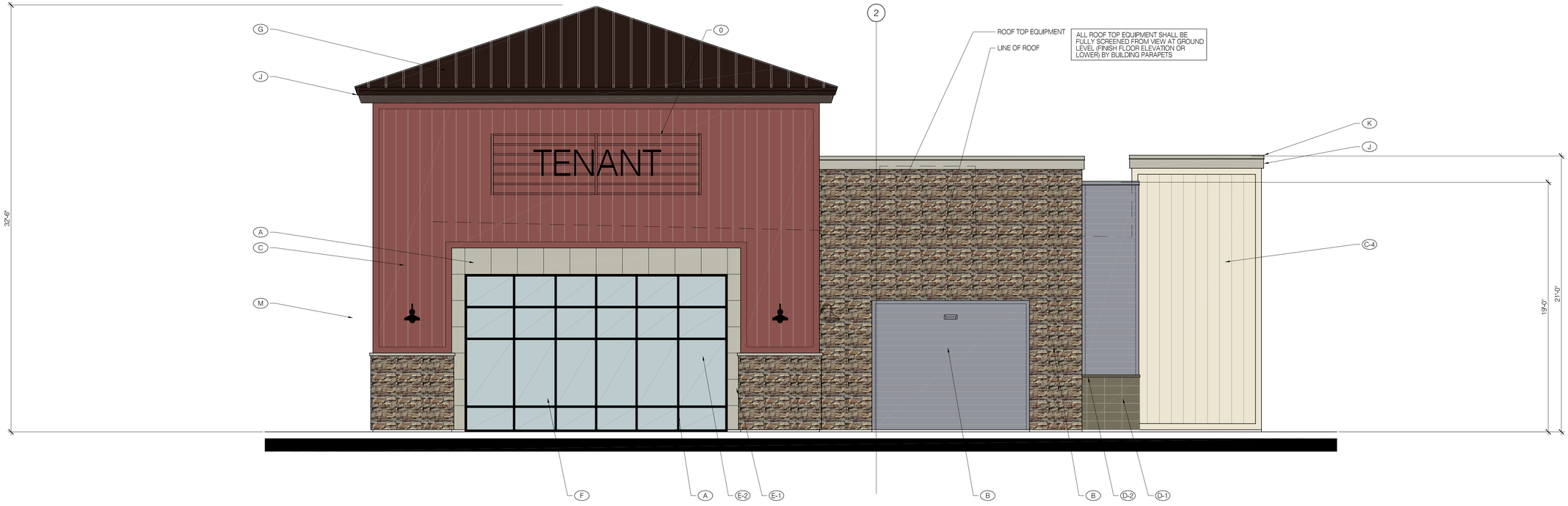
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SOUTH ELEVATION



EAST (WILDOMAR TRAIL) ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#MF-#L-40K-UL-BZ

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

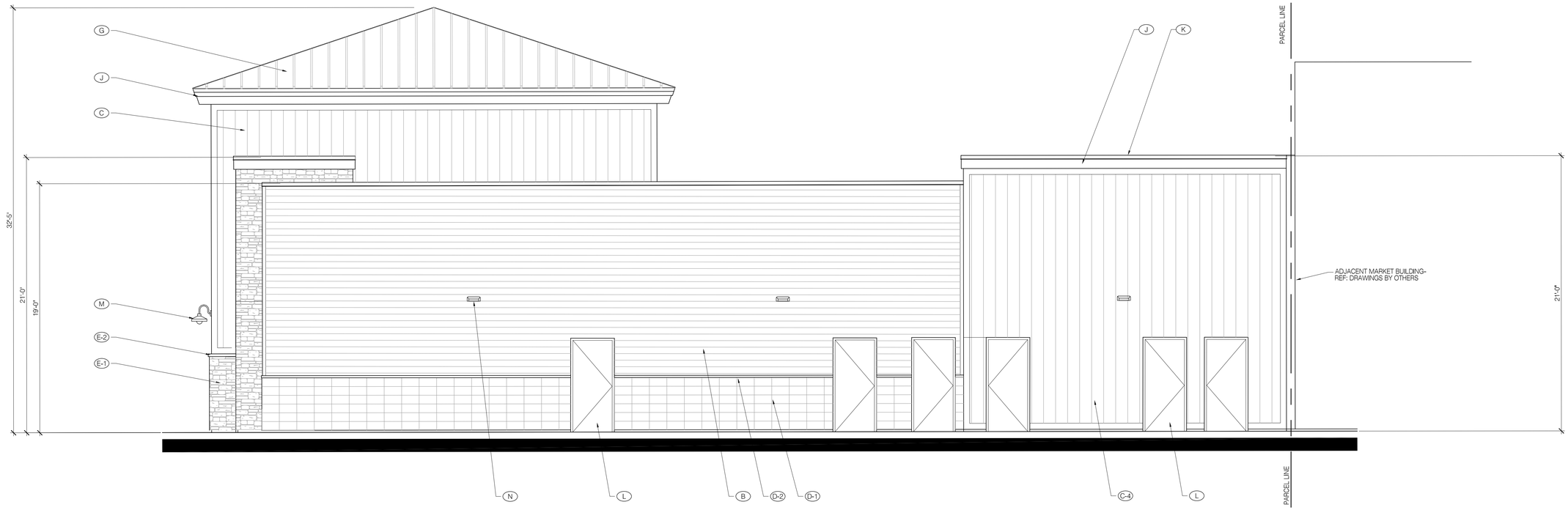
SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM



NORTH ELEVATION

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

EXTERIOR MATERIALS & FINISHES

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

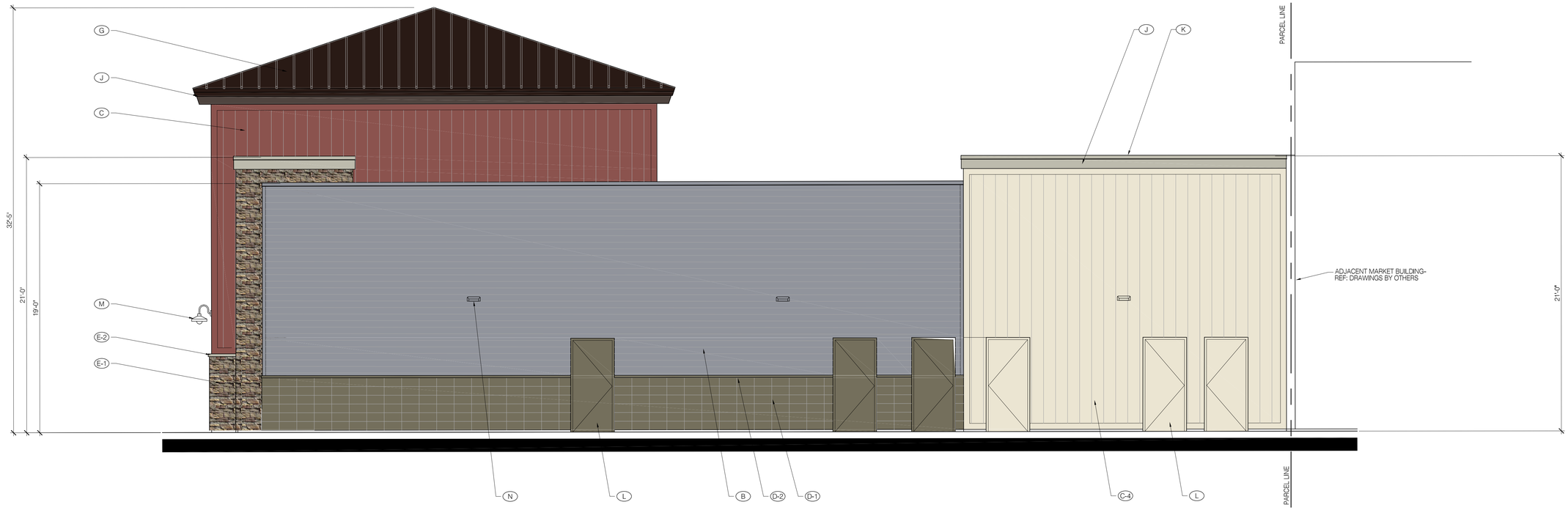
(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM



NORTH ELEVATION

SHOPS 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

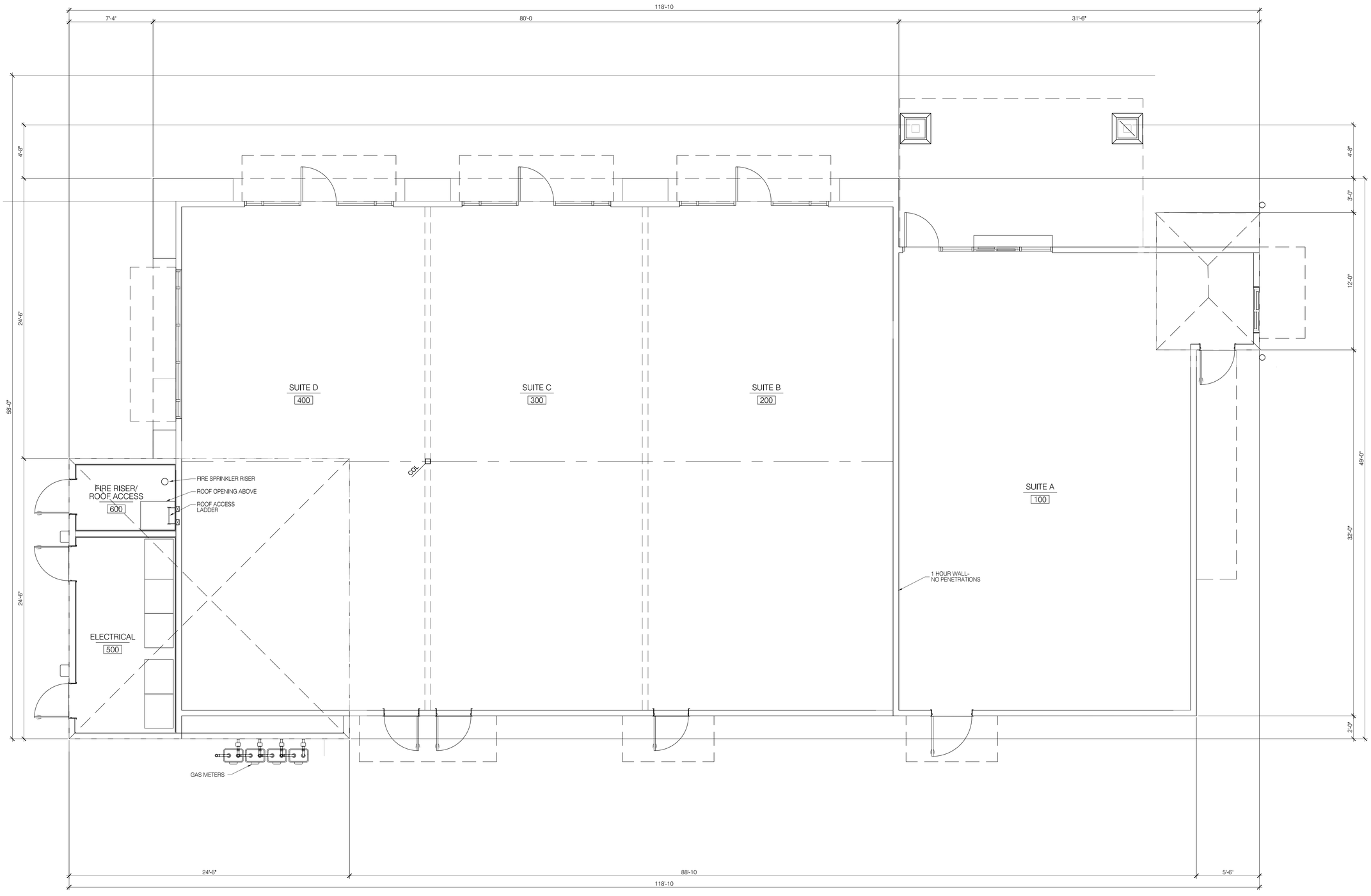
WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



PROJECT DATA

2019 CBC

BUILDING AREA:	4,633 SF
TYPE OF CONSTRUCTION:	V-N (FIRE SPRINKLERED)
OCCUPANCY:	A-2/ M

PAD 1
FLOOR PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

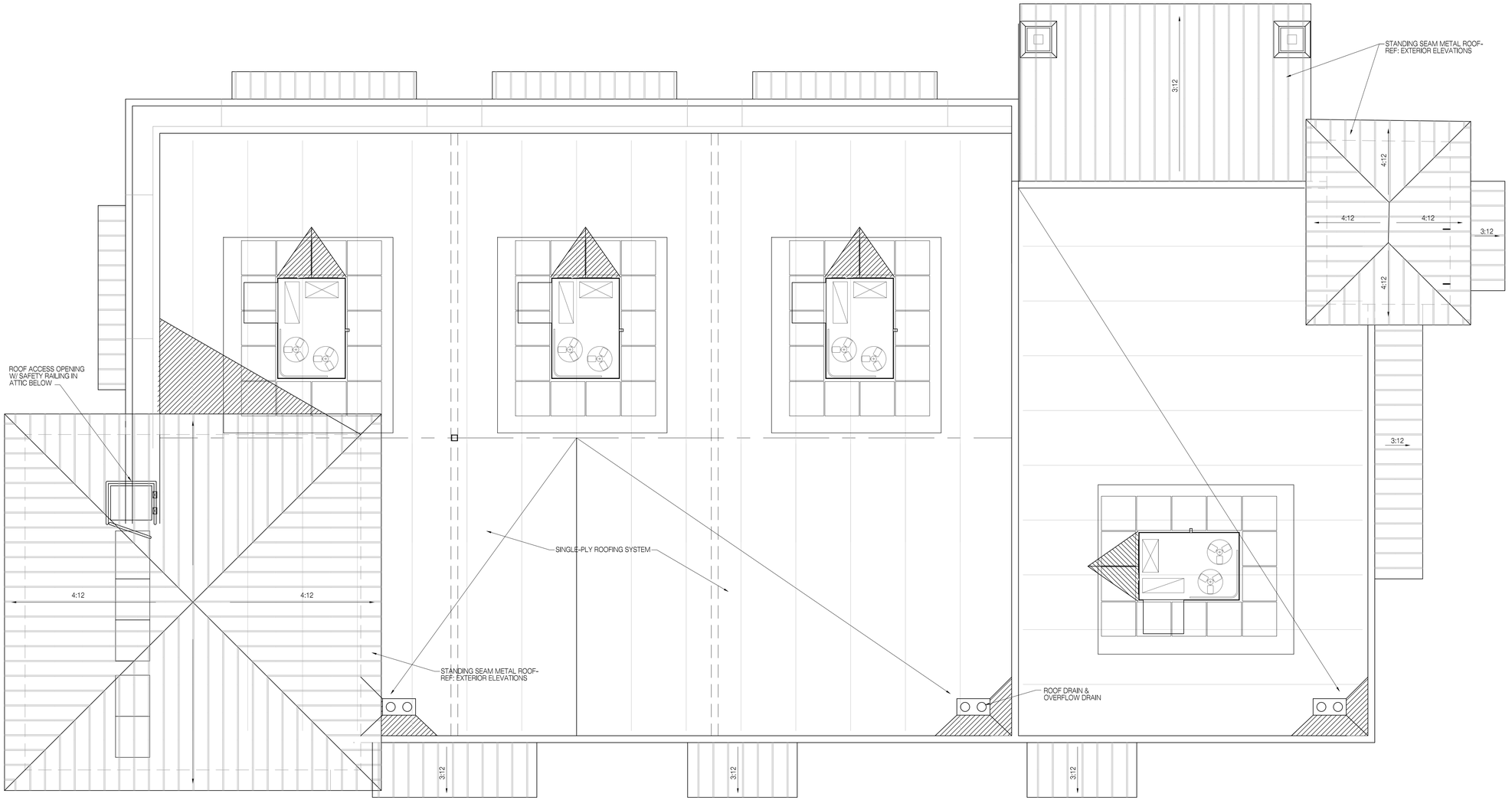
WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



PAD 1
ROOF PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

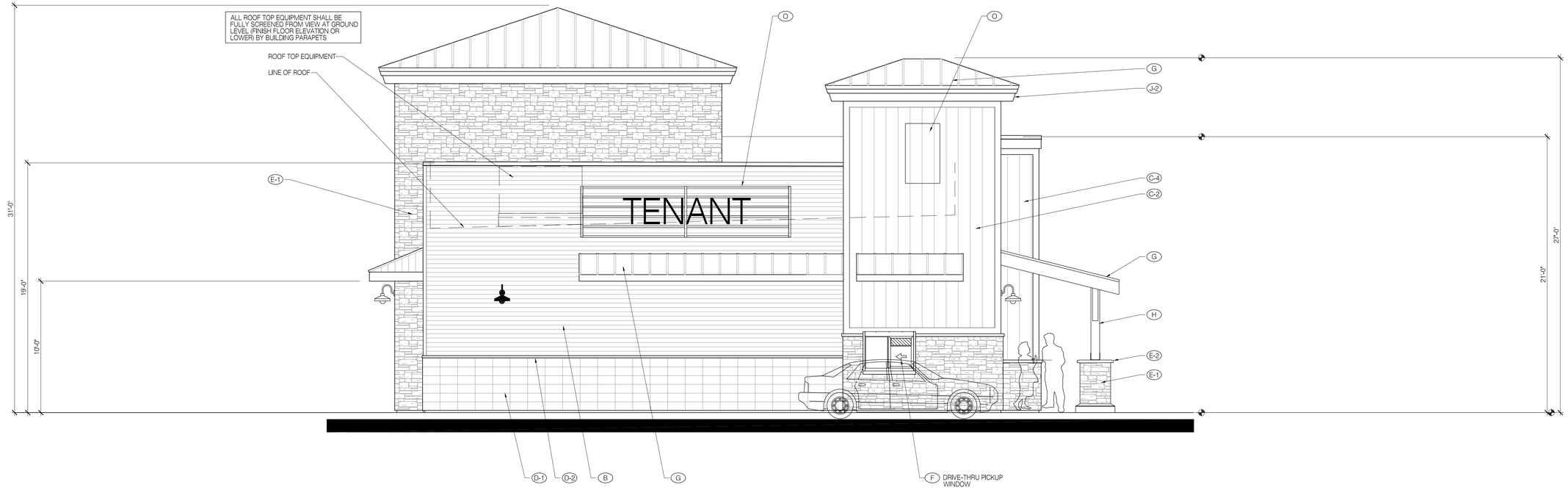
NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

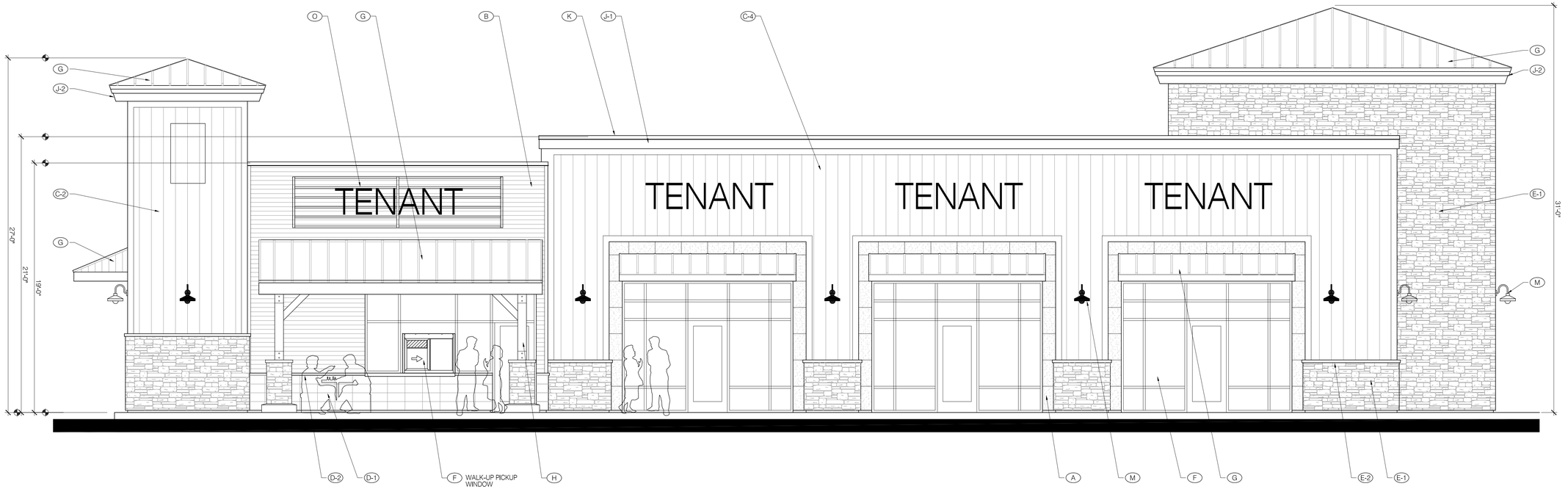
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



SOUTH (CLINTON KEITH ROAD) ELEVATION



EAST ELEVATION

EXTERIOR MATERIALS & FINISHES

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

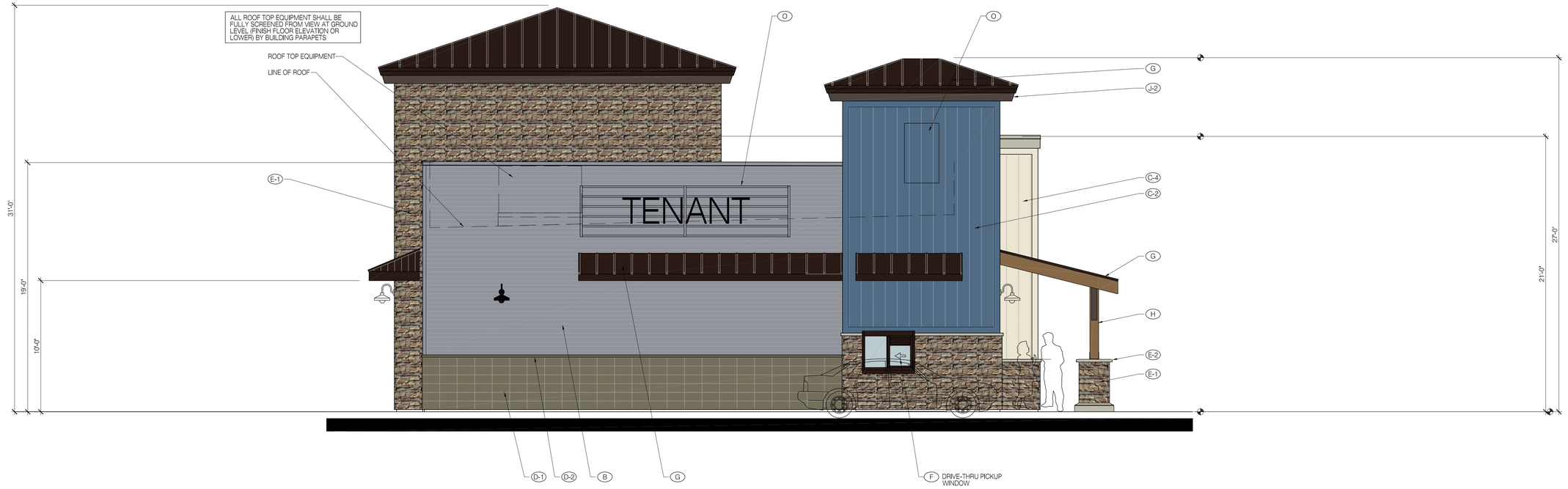
GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022



SOUTH (CLINTON KEITH ROAD) ELEVATION



EAST ELEVATION

EXTERIOR MATERIALS & FINISHES

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

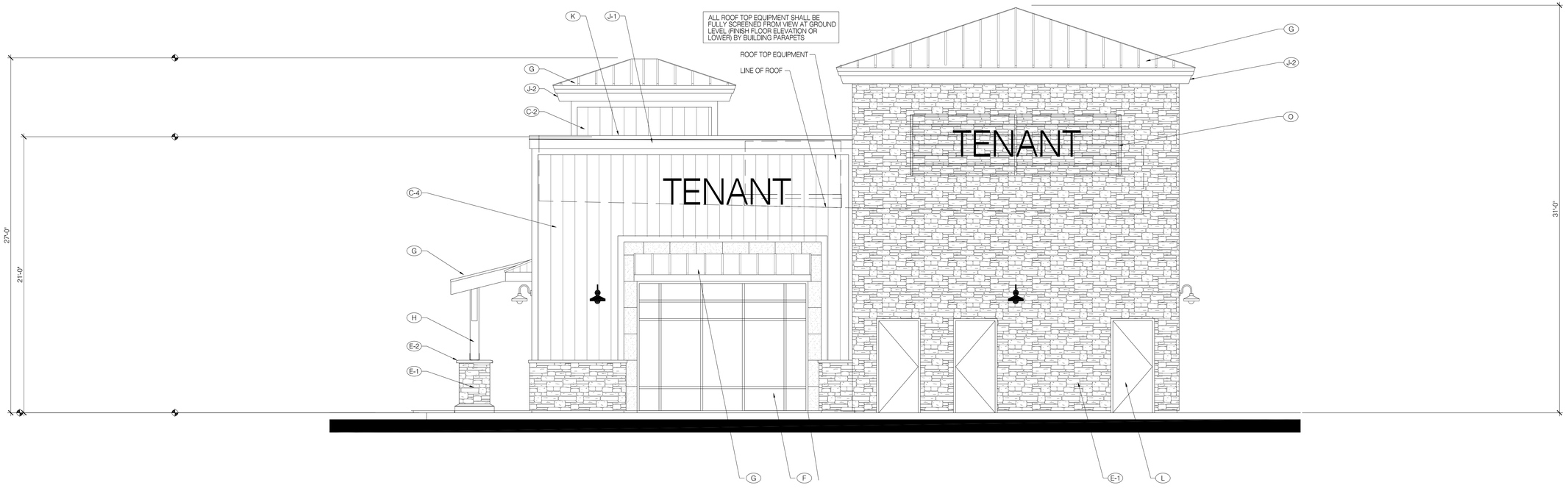
PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

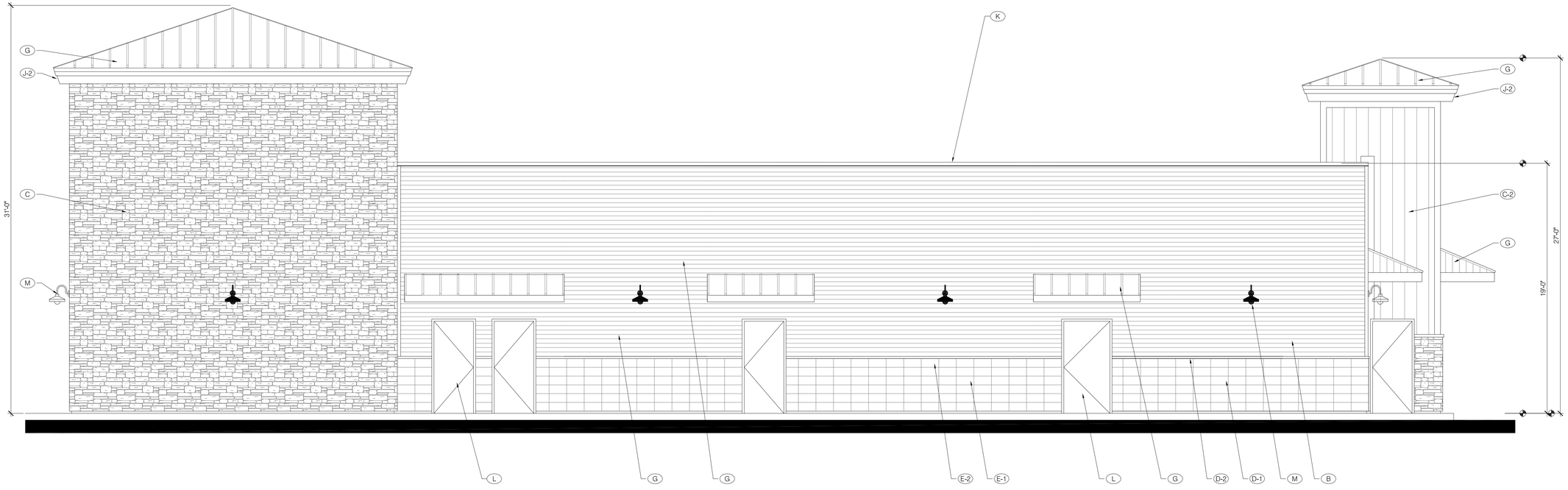
GKPA PROJECT #21108.01
23 JUNE 2022

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



NORTH ELEVATION



WEST ELEVATION

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

EXTERIOR MATERIALS & FINISHES

2718

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM

PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

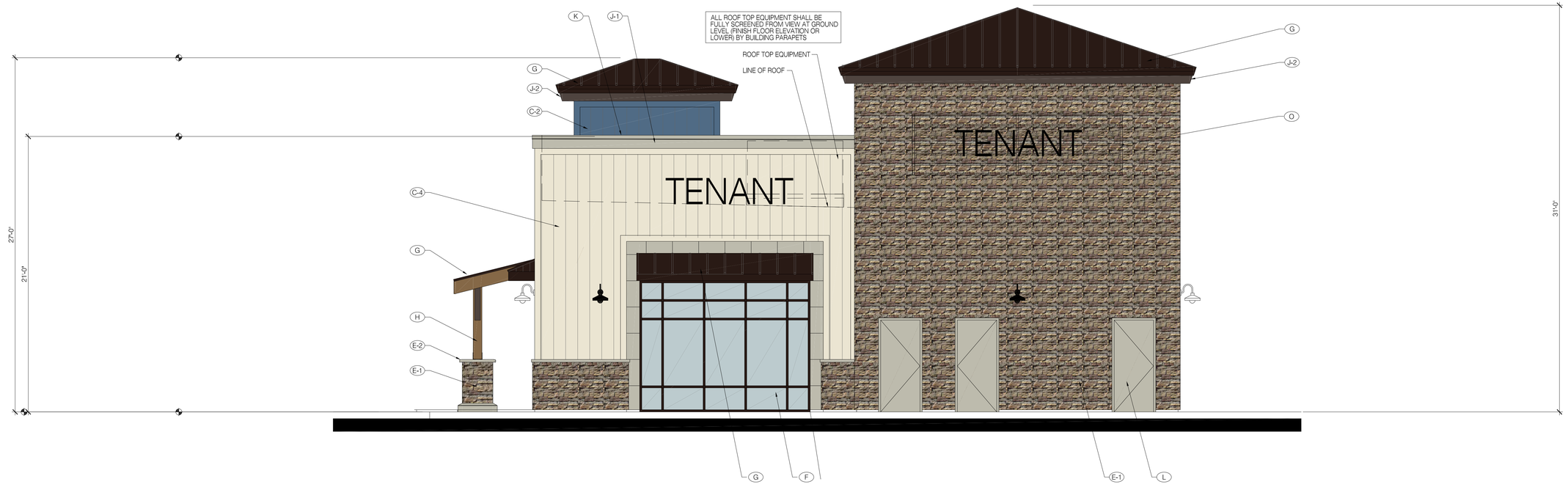
SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

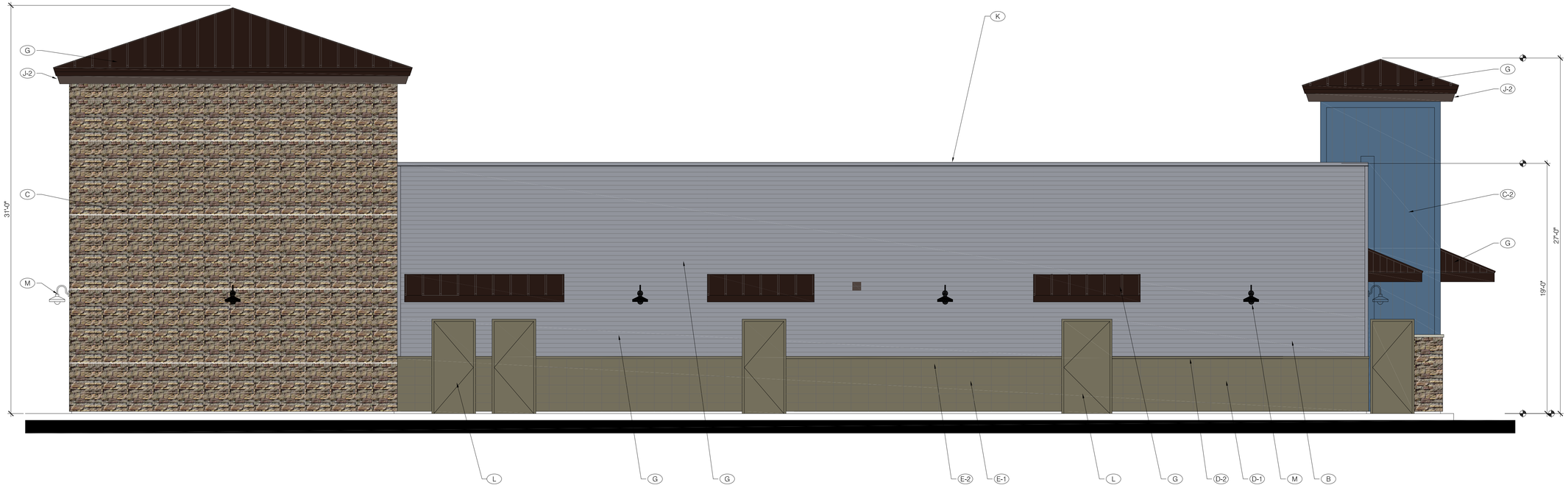
GKP PIERCE ARCHITECTS

3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



NORTH ELEVATION



WEST ELEVATION

EXTERIOR MATERIALS & FINISHES

2719

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

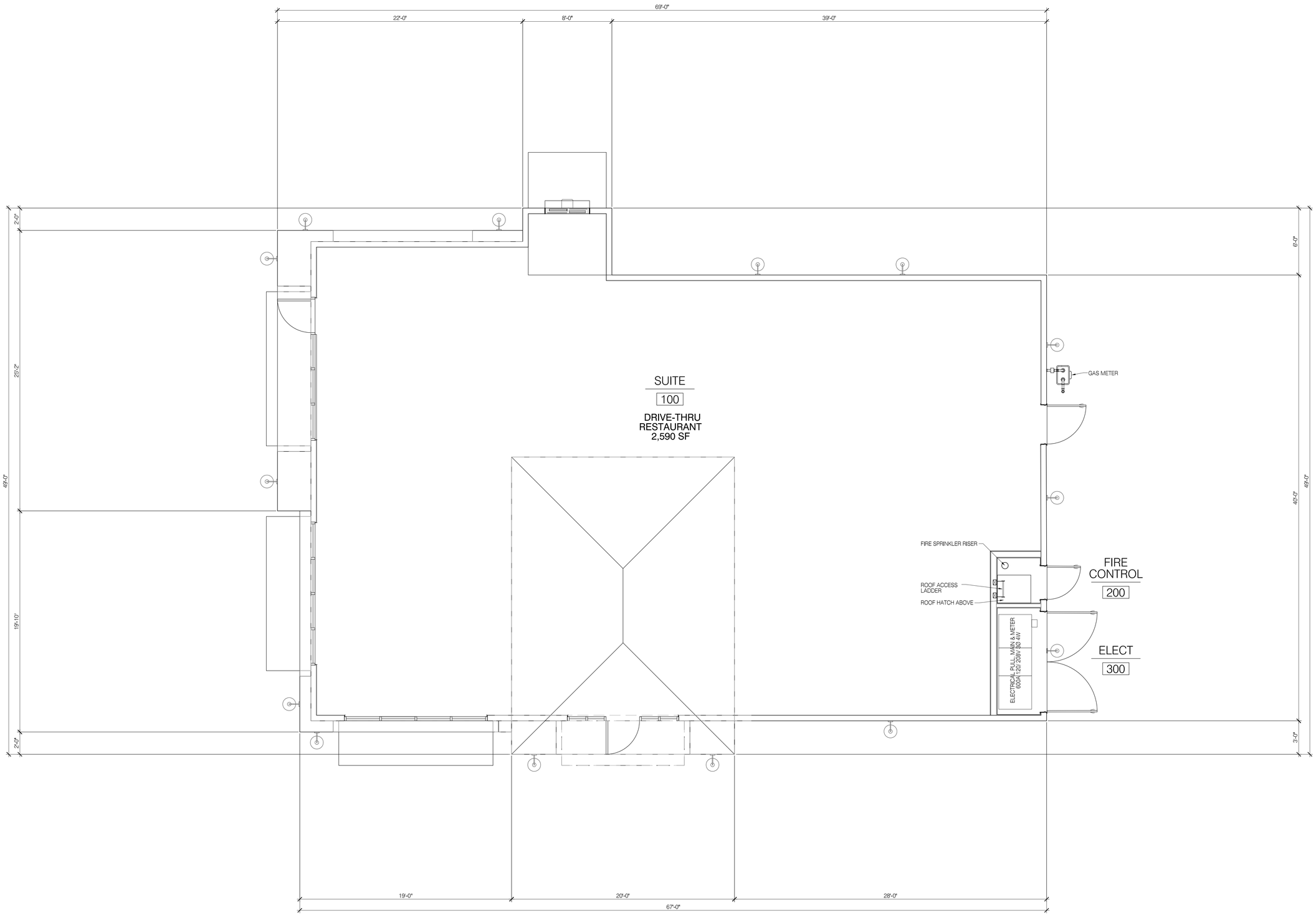
PAD 1
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



PROJECT DATA

2019 CBC

BUILDING AREA:	2,590 SF
TYPE OF CONSTRUCTION:	V-N (FIRE SPRINKLERED)
OCCUPANCY:	A-2

PAD 2
FLOOR PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

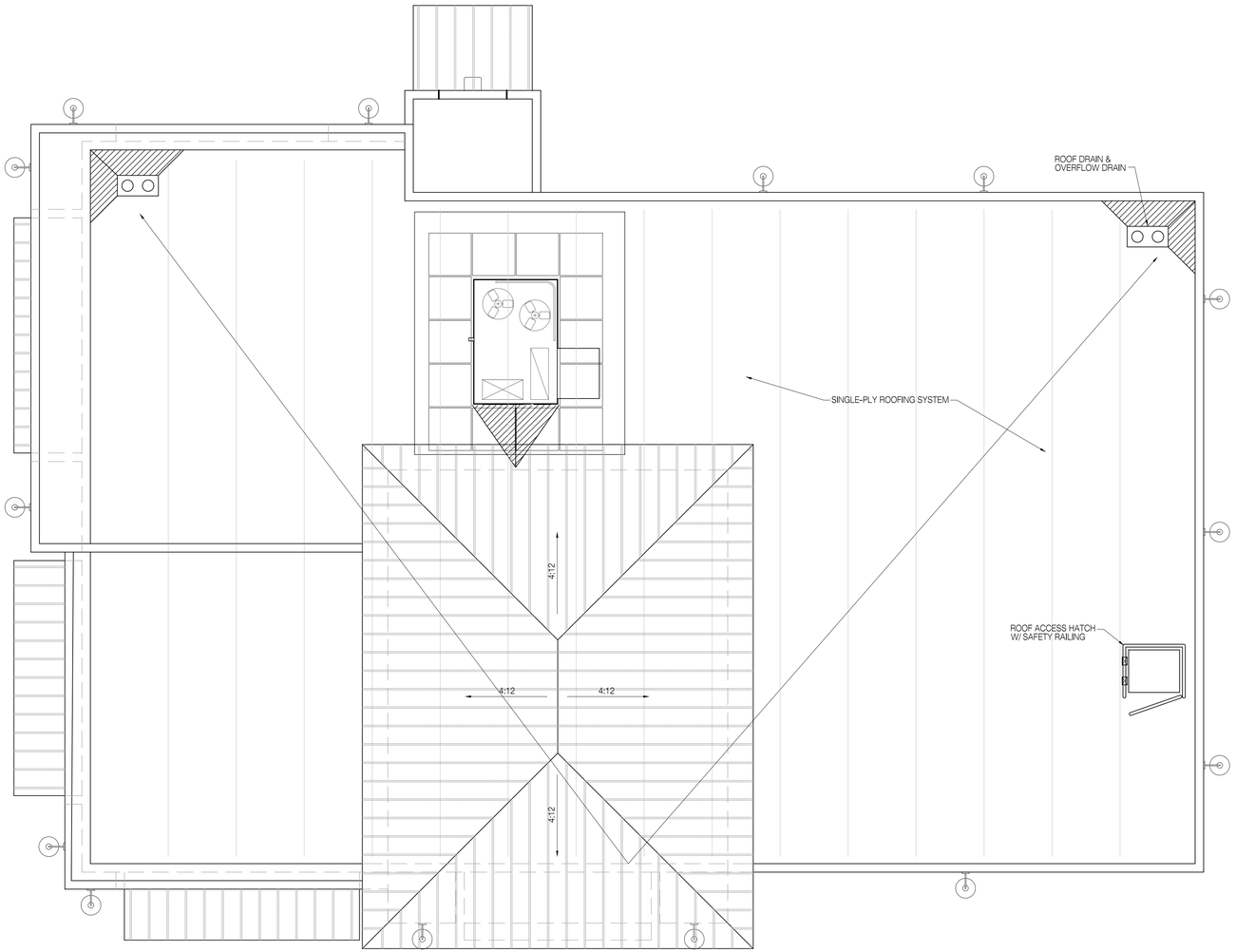
SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS

3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



PAD 2
ROOF PLAN

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

NORTH

WILDOMAR CROSSROADS
WILDOMAR, CALIFORNIA

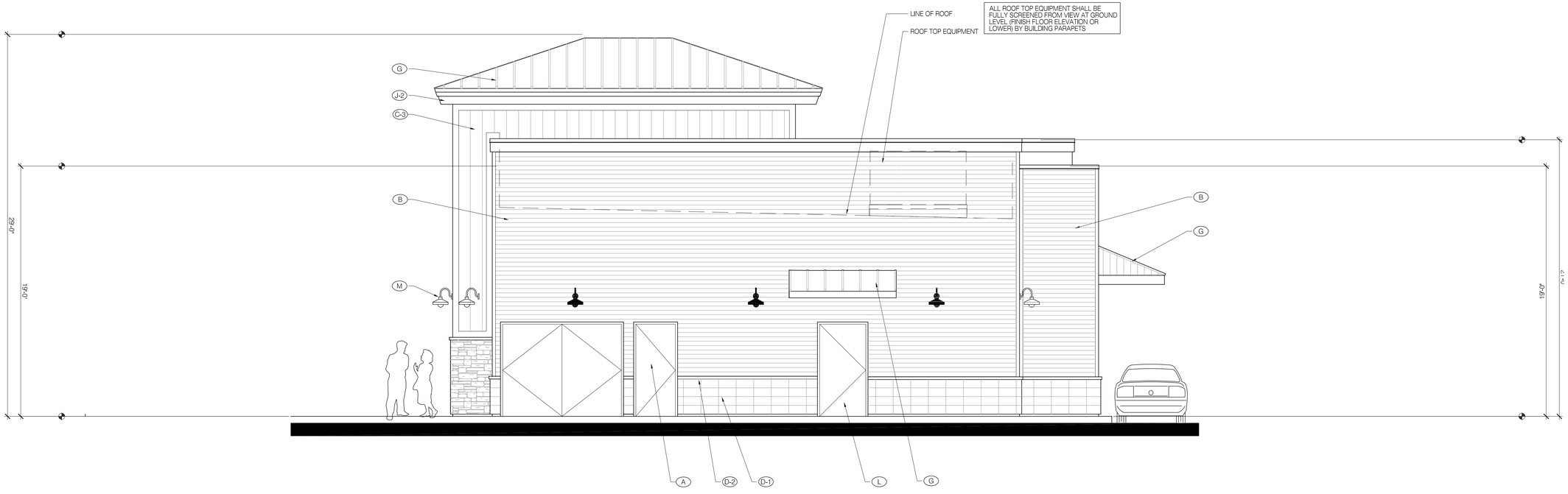
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



NORTHWEST ELEVATION



SOUTHWEST ELEVATION

EXTERIOR MATERIALS & FINISHES

2722

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

PAD 2
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

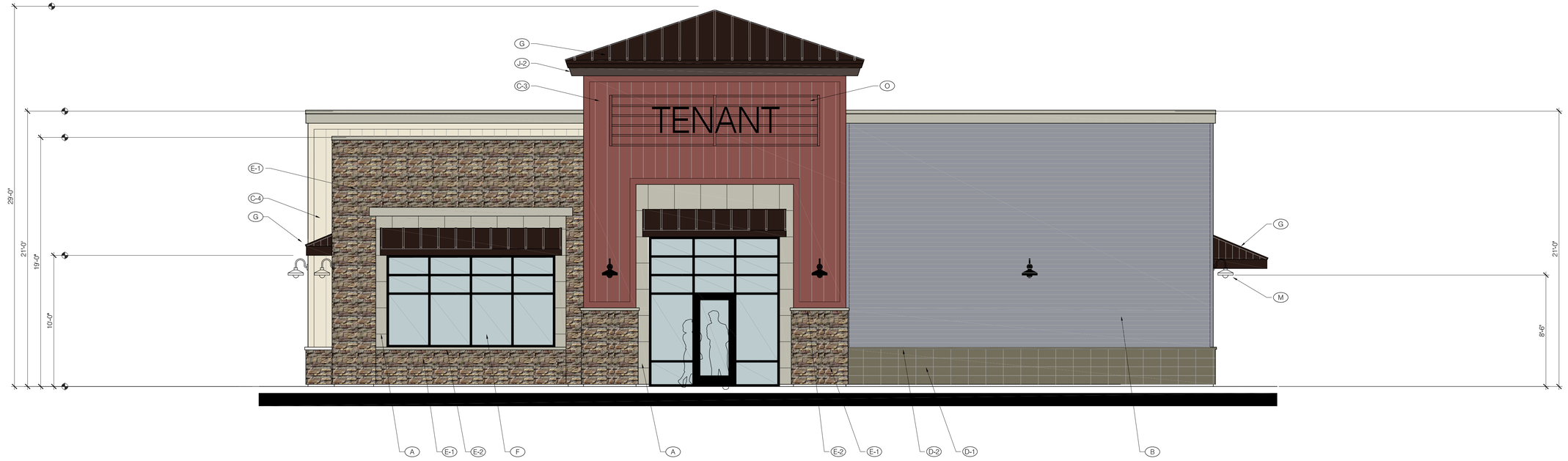
WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

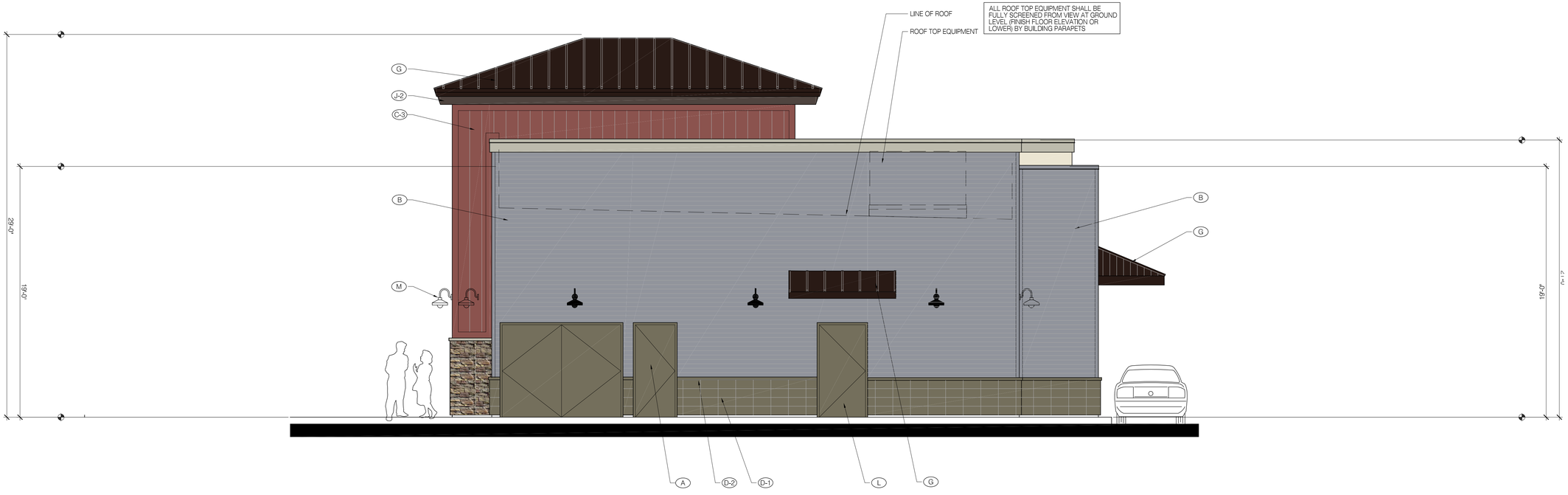
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



NORTHWEST ELEVATION



SOUTHWEST ELEVATION

EXTERIOR MATERIALS & FINISHES

2723

- (A) PORCELAIN TILE-
  MFR/ PATTERN: ABK/ DOWNTOWN
  COLOR: ASH
- (B) CORRUGATED SIDING- SYSTEM
  MFR: IMETCO
  COLOR: PREWEATHERED GALVALUME
- (C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"
- (C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"
- (C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"
- (C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
  COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"
- (D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (D-2) PRECISION CMU SILL CAP- PAINTED
  COLOR: PPG 1028-6 "MOMENTUM"
- (E-1) MANUFACTURED STONE VENEER-
  CORONADO OLD WORLD LEDGE "MONARCH"
- (E-2) MANUFACTURED STONE SILL CAP
  CORONADO 900 SERIES GREY
- (F) ALUMINUM STOREFRONT SYSTEM-
  COLOR: ANODIZED DARK BRONZE
- (G) BERRIDGE STANDING SEAM METAL ROOF
  COLOR: AGED BRONZE
- (H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
  STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
  METAL PAINT COLOR: PPG
- (J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1032-2 "HURRICANE HAZE"
- (J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
  COLOR: PPG 1005-7 "DARK GRANITE"
- (K) GALVANIZED METAL COPING (PAINTED)
  COLOR: TO MATCH ADJACENT SURFACE
- (L) METAL DOORS & FRAMES- PAINTED
  COLOR: TO MATCH ADJACENT SURFACE
- (M) DECORATIIVE LIGHT FIXTURE-
  "SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
  HILITE H-CDSPRTS-45972
  COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING
- (N) WALL PACK LIGHT FIXTURE-
  CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
  REF: ELECTRICAL DRAWINGS
- (O) SIGNAGE UNDER SEPARATE PERMIT-
  REFER TO SIGN PROGRAM

PAD 2
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

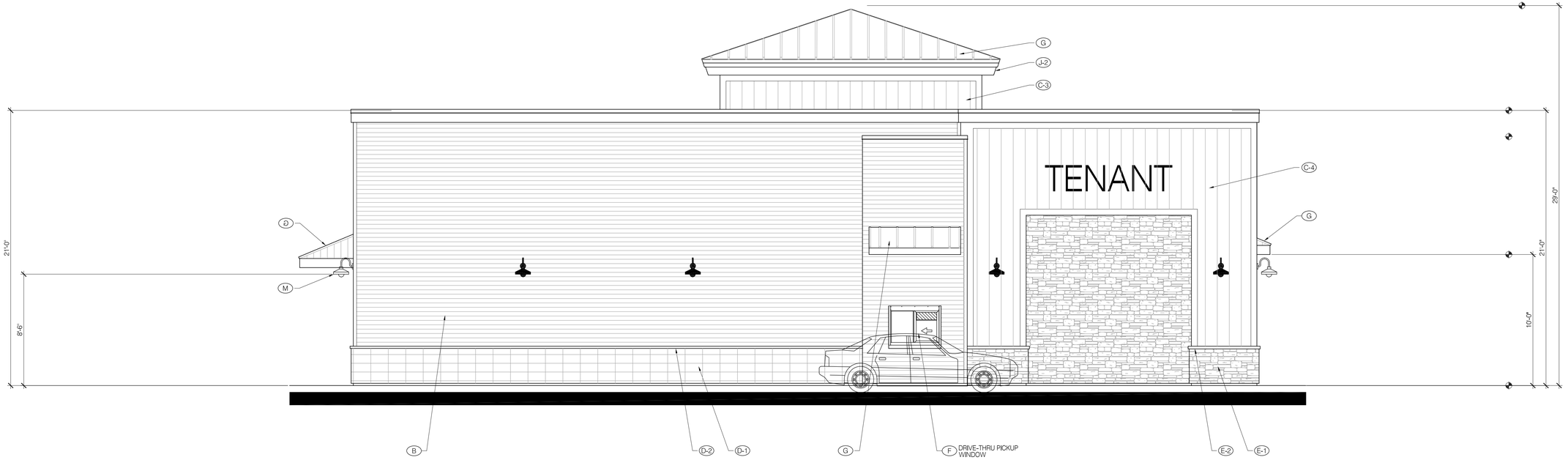
WILDOMAR, CALIFORNIA

SAGE INVESTCO

4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GKP PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC., 2022



SOUTHEAST ELEVATION



NORTHEAST ELEVATION

EXTERIOR MATERIALS & FINISHES

2724

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

PAD 2
EXTERIOR ELEVATIONS

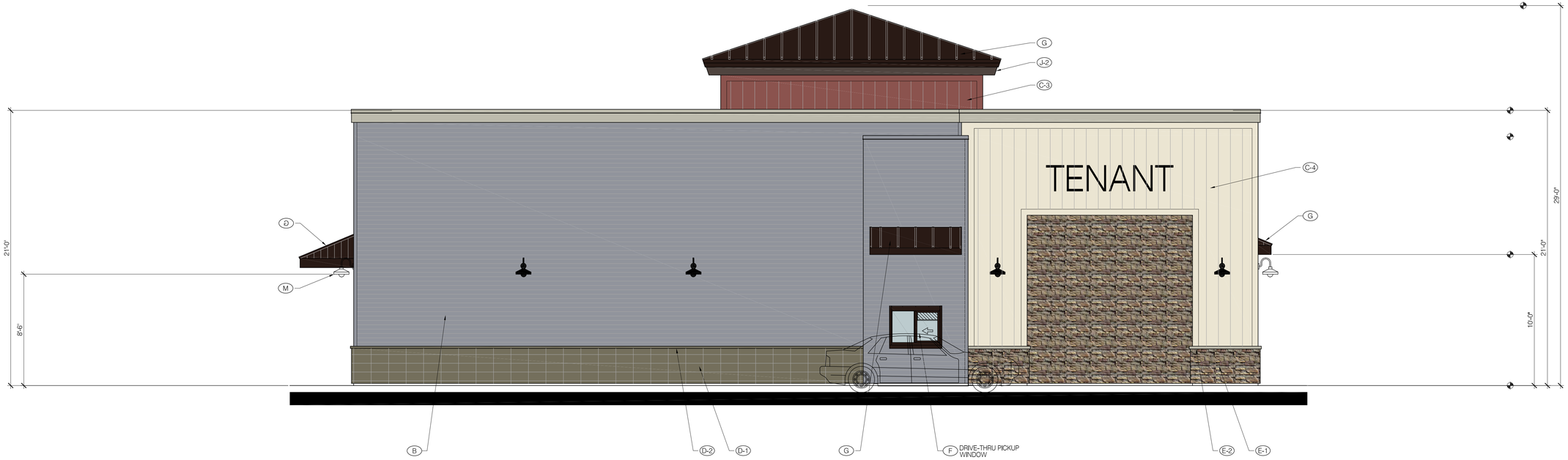
WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

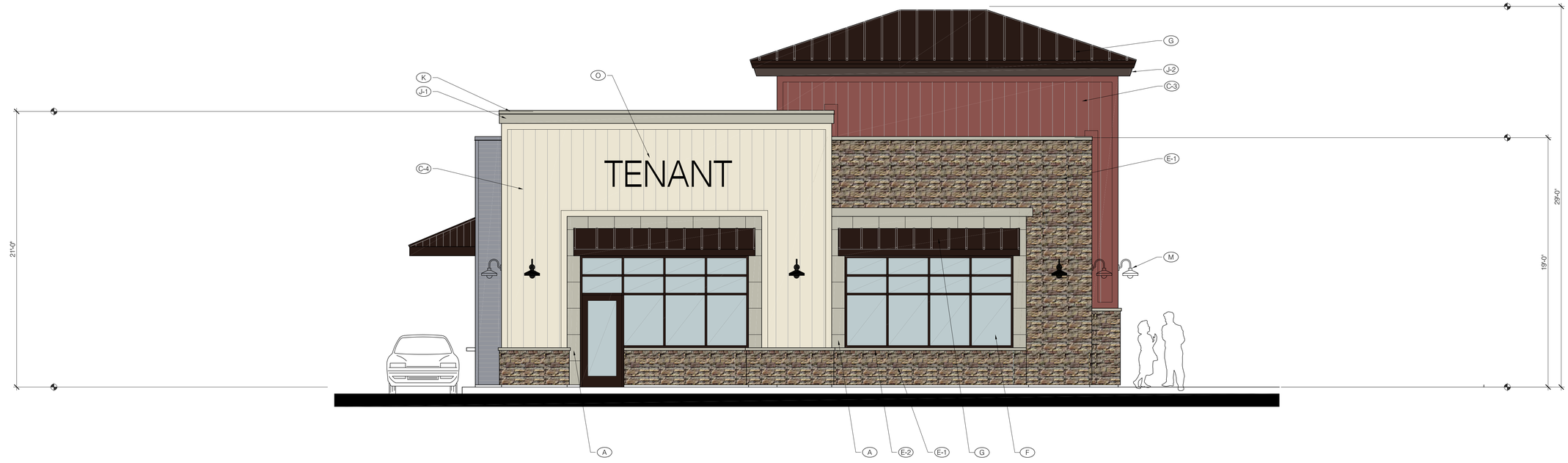
SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022



SOUTHEAST ELEVATION



NORTHEAST ELEVATION

EXTERIOR MATERIALS & FINISHES

2725

(A) PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH

(B) CORRUGATED SIDING- SYSTEM
MFR: IMETCO
COLOR: PREWEATHERED GALVALUME

(C-1) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH PPG 1142-6 "JERICHO JADE"

(C-2) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 6523 "DENIM"

(C-3) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS SW 0006 "TOILE RED"

(C-4) HARDIE BOARD ATRESIAN SQUARE CHANNEL SIDING (VERTICAL)- PAINTED
COLOR: TO MATCH SHERWIN WILLIAMS PPG 1099-1 "ALWAYS ALMOND"

(D-1) SPLIT FACE CMU VENEER (STACKED BOND)- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(D-2) PRECISION CMU SILL CAP- PAINTED
COLOR: PPG 1028-6 "MOMENTUM"

(E-1) MANUFACTURED STONE VENEER-
CORONADO OLD WORLD LEDGE "MONARCH"

(E-2) MANUFACTURED STONE SILL CAP
CORONADO 900 SERIES GREY

(F) ALUMINUM STOREFRONT SYSTEM-
COLOR: ANODIZED DARK BRONZE

(G) BERRIDGE STANDING SEAM METAL ROOF
COLOR: AGED BRONZE

(H) RESAWN TIMBER ROOF SUPPORT COLUMN ASSEMBLY W/ EXPOSED STEEL BRACKETS & HARDWARE-
STAIN COLOR: FLOOD WOOD STAIN- "TOBACCO"
METAL PAINT COLOR: PPG

(J-1) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1032-2 "HURRICANE HAZE"

(J-2) DRESSED WOOD FASCIA & TRIM (PAINTED)
COLOR: PPG 1005-7 "DARK GRANITE"

(K) GALVANIZED METAL COPING (PAINTED)
COLOR: TO MATCH ADJACENT SURFACE

(L) METAL DOORS & FRAMES- PAINTED
COLOR: TO MATCH ADJACENT SURFACE

(M) DECORATIIVE LIGHT FIXTURE-
"SMOOT" TYPE FIXTURE W/ GOOSENECK MOUNT (PAINTED)
HILITE H-CDSPRTS-45972
COLOR: VERIFY W/ ARCHITECT PRIOR TO ORDERING

(N) WALL PACK LIGHT FIXTURE-
CREE XSPW-B-WM-#ME-#L-40K-UL-BZ
REF: ELECTRICAL DRAWINGS

(O) SIGNAGE UNDER SEPARATE PERMIT-
REFER TO SIGN PROGRAM

0 2' 4' 8'

SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

PAD 2
EXTERIOR ELEVATIONS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2022

PAINT-
PPG 1099-1 "ALWAYS ALMOND"



PAINT-
PPG 1032-2 "HURRICANE HAZE"



PAINT-
PPG 1028-6 "MOMENTUM"



PAINT-
PPG 1005-7 "DARK GRANITE"



STAINED WOOD-
FLOOD SEMI-TRANSPARENT STAIN
"707 "TOBACCO



PAINT-
PPG 1142-6 "JERICHO JADE"



PAINT-
SHERWIN WILLIAMS SW 6523
"DENIM"



PAINT-
SHERWIN WILLIAMS SW 0006
"TOILE RED"



MANUFACTURED STONE SILL-
CORONADO STONE
900 SERIES "GREY"



MANUFACTURED STONE VENEER-
CORONADO STONE
OLD WORLD LEDGE- "MONARCH"



METAL ROOFING-
BERRIDGE "AGED BRONZE"



CORRUGATED SIDING-
IMETCO LATITUDE HORIZONTAL
"WEATHERED GALVALUME"



PORCELAIN TILE-
MFR/ PATTERN: ABK/ DOWNTOWN
COLOR: ASH



DECORATIVE "SMOOT" TYPE LIGHT
FIXTURE (GOOSENECK MOUNT)
COLOR:

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

COMMERCIAL DISTRICT
COLORS & MATERIALS

WILDOMAR CROSSROADS
WILDOMAR, CA

GKPA PROJECT #21108.01
23 JUNE 2022

BRR ARCHITECTURE, INC.
DALLAS, TX

SAGE INVESTCO
4350 VON KARMAN, SUITE 200
NEWPORT BEACH, CA 92660
949.954.6100

GK PIERCE ARCHITECTS
3 OVERTURE
ALISO VIEJO, CA 92656
T 949.344.2710
F 949.344.2720

©GK PIERCE ARCHITECTS, INC. 2021



CONCEPTUAL PERSPECTIVE

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 SOUTH



BUILDING 1 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 SOUTH



BUILDING 1 NORTH

WILDOMAR CROSSROADS

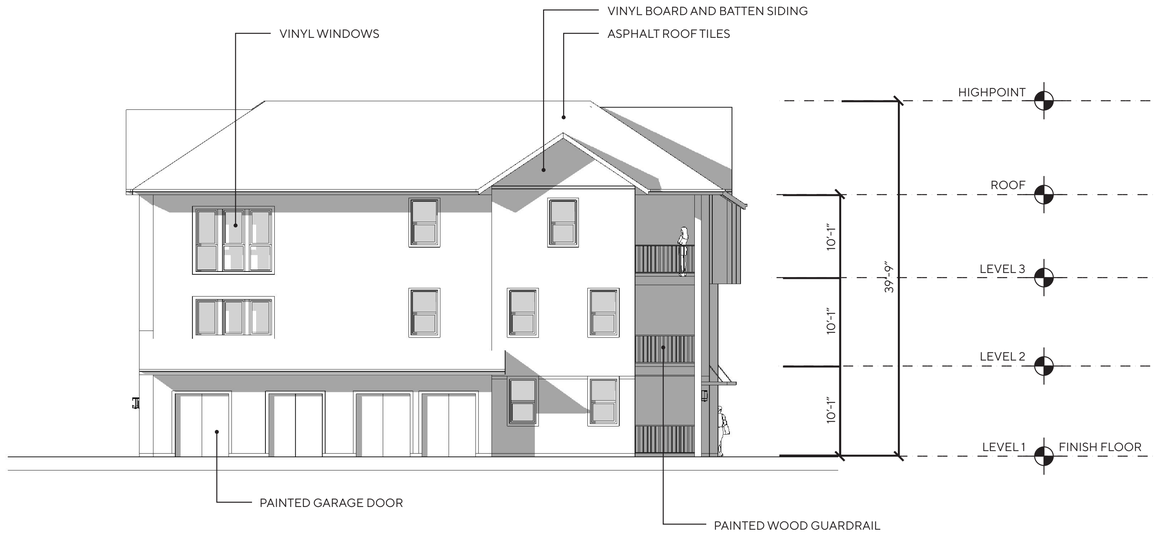
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

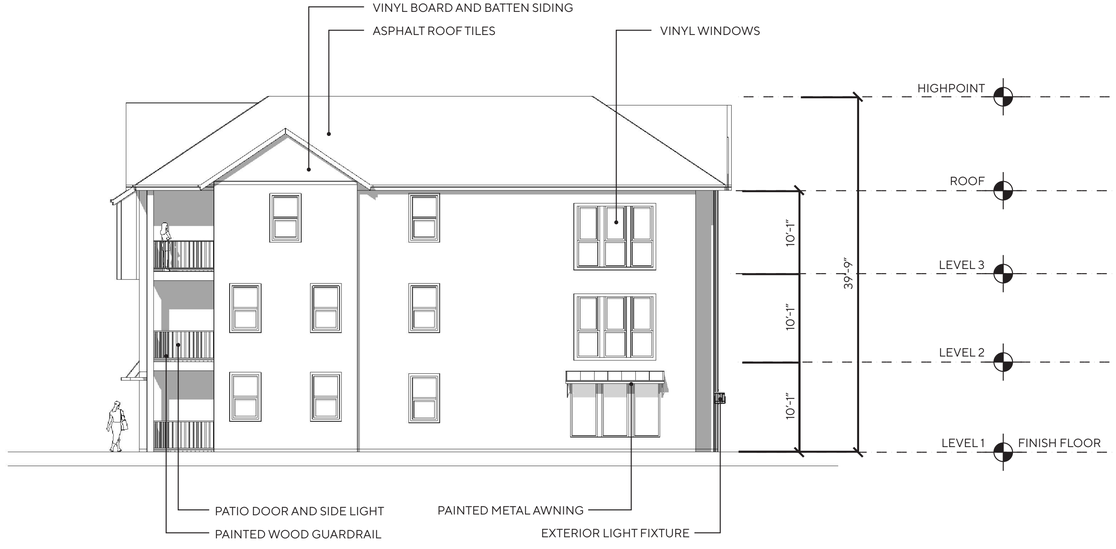
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 EAST



BUILDING 1 WEST

WILDOMAR CROSSROADS

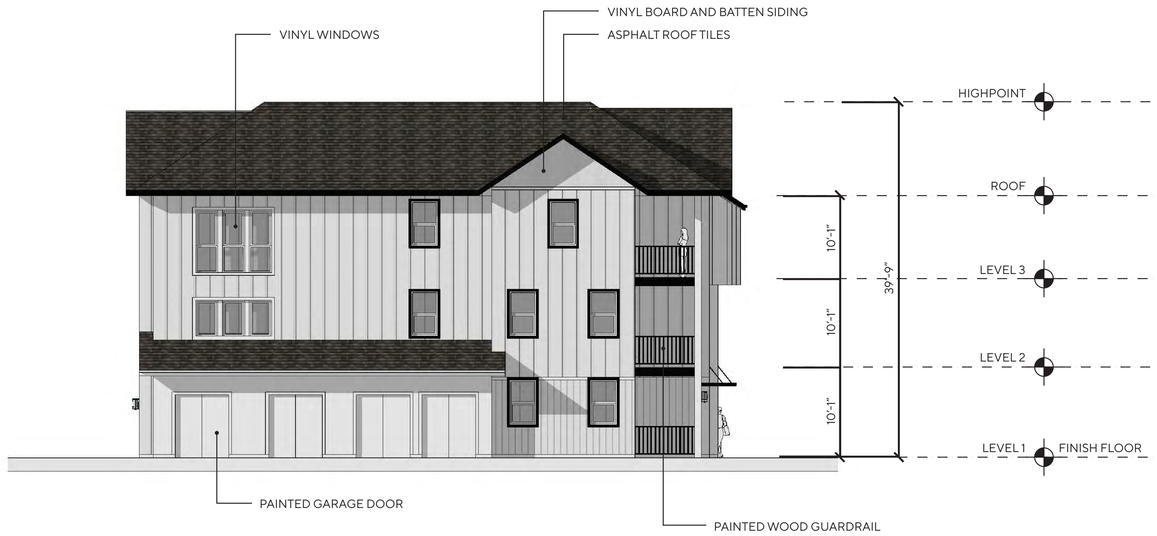
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

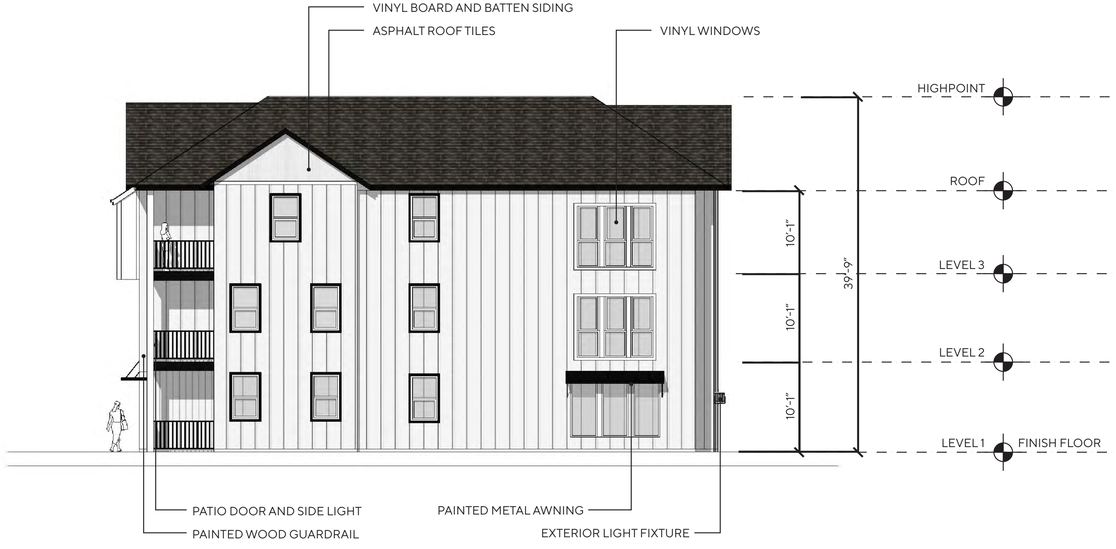
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 1 EAST



BUILDING 1 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 2 SOUTH



BUILDING 2 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.



BUILDING 2 SOUTH



BUILDING 2 NORTH

WILDOMAR CROSSROADS

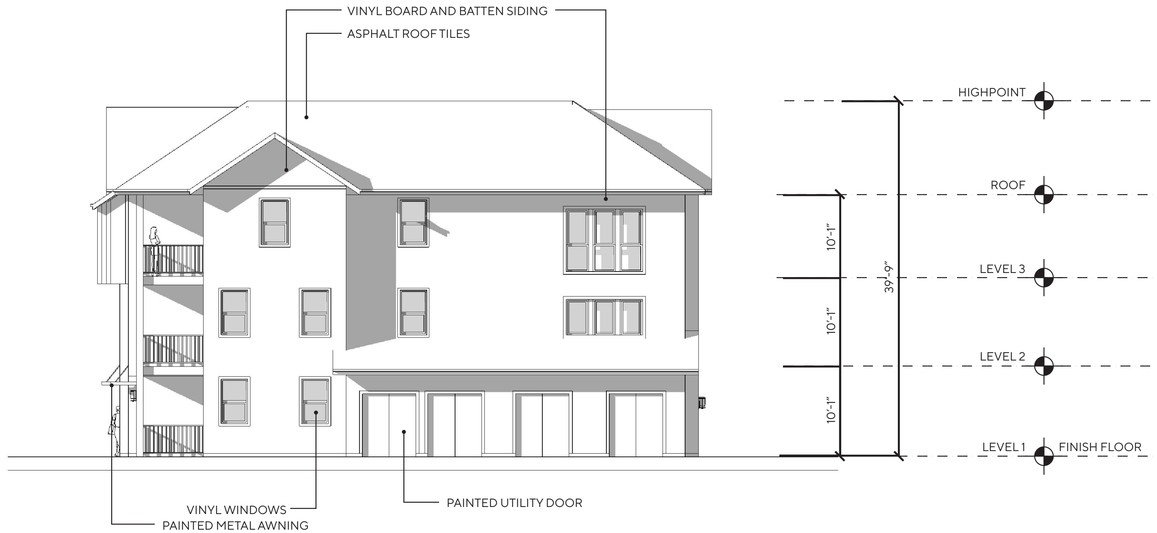
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 2 EAST



BUILDING 2 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.

2734



BUILDING 2 EAST



BUILDING 2 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 3 SOUTH



BUILDING 3 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 3 SOUTH



BUILDING 3 NORTH

WILDOMAR CROSSROADS

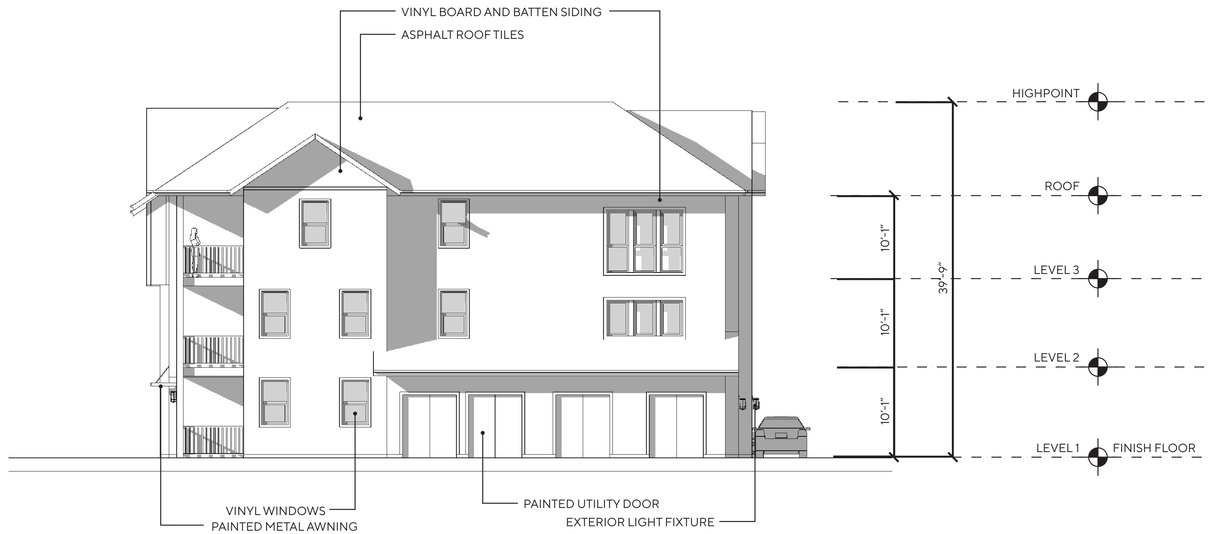
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.



BUILDING 3 EAST



BUILDING 3 WEST

WILDOMAR CROSSROADS

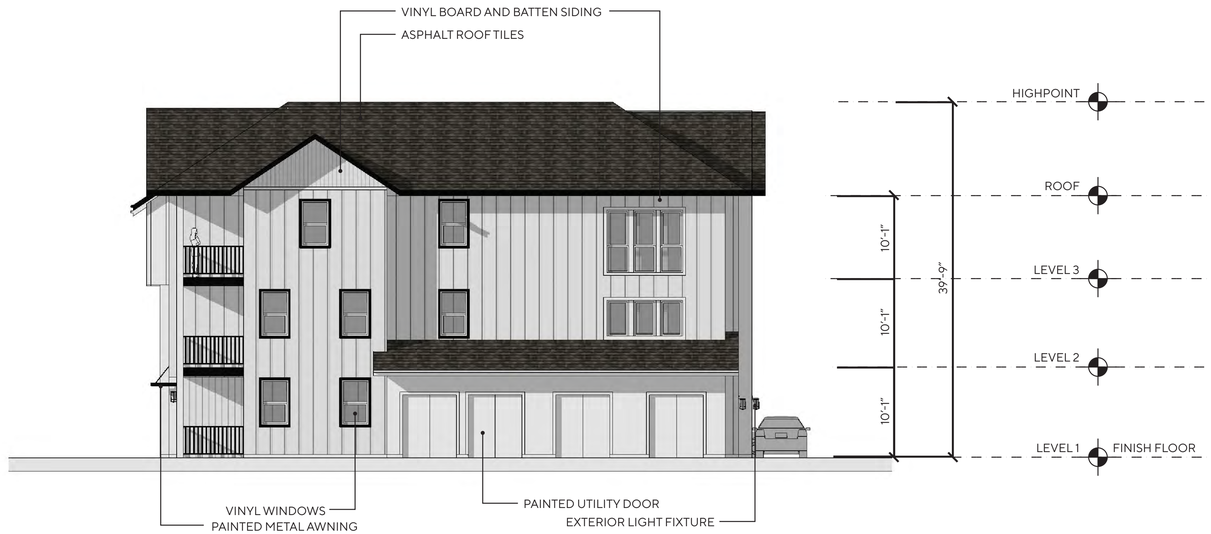
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 3 EAST



BUILDING 3 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 SOUTH



BUILDING 4 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.

2740



BUILDING 4 SOUTH



BUILDING 4 NORTH

WILDOMAR CROSSROADS

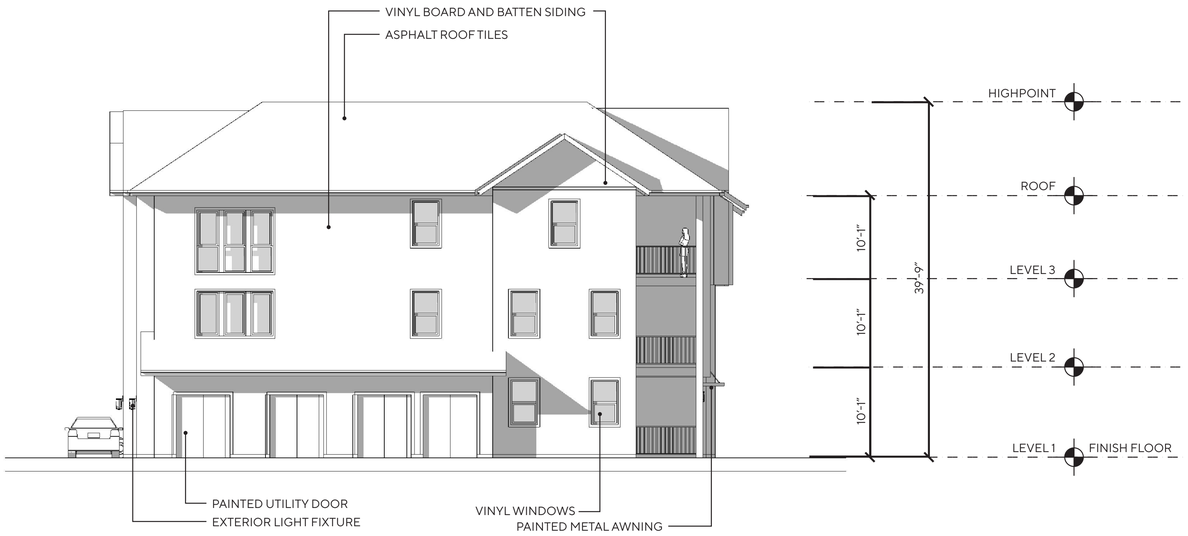
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

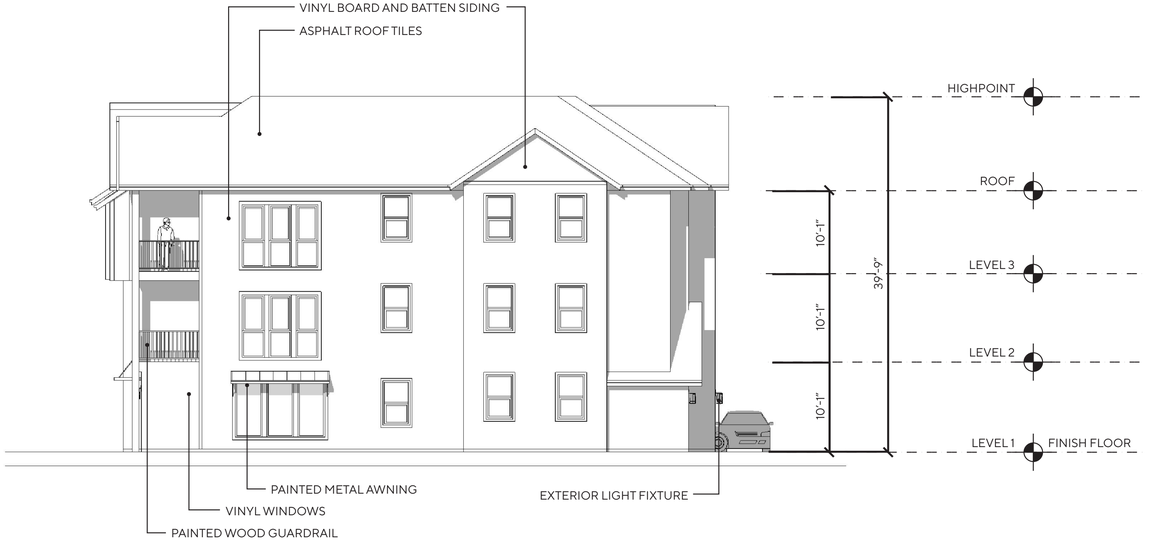
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 EAST



BUILDING 4 WEST

WILDOMAR CROSSROADS

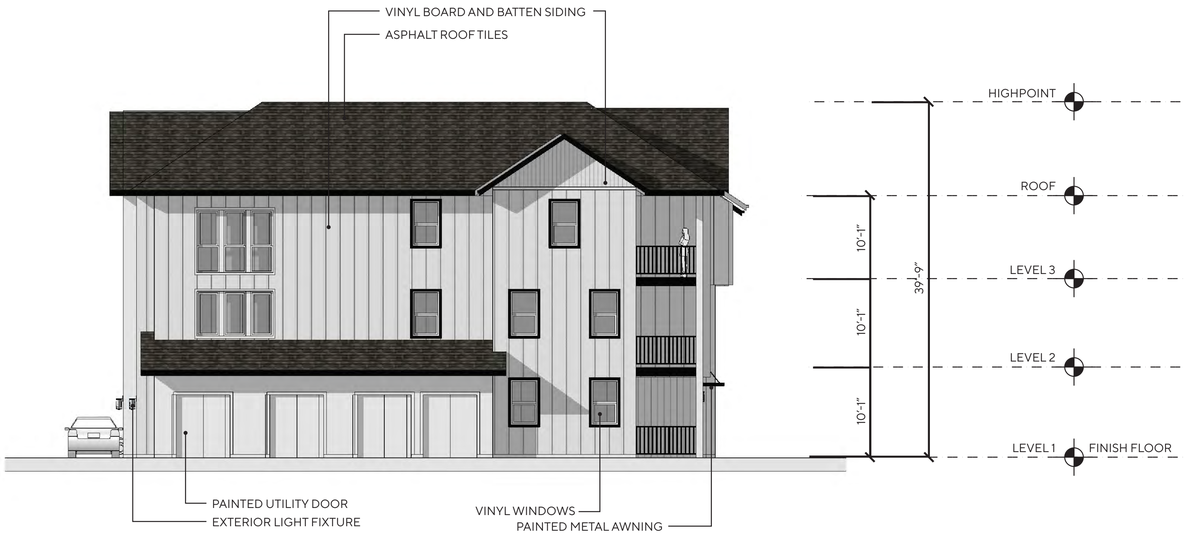
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 4 EAST



BUILDING 4 WEST

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 SOUTH

BUILDING 5 NORTH

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.

2744



BUILDING 5 SOUTH



BUILDING 5 NORTH

WILDOMAR CROSSROADS

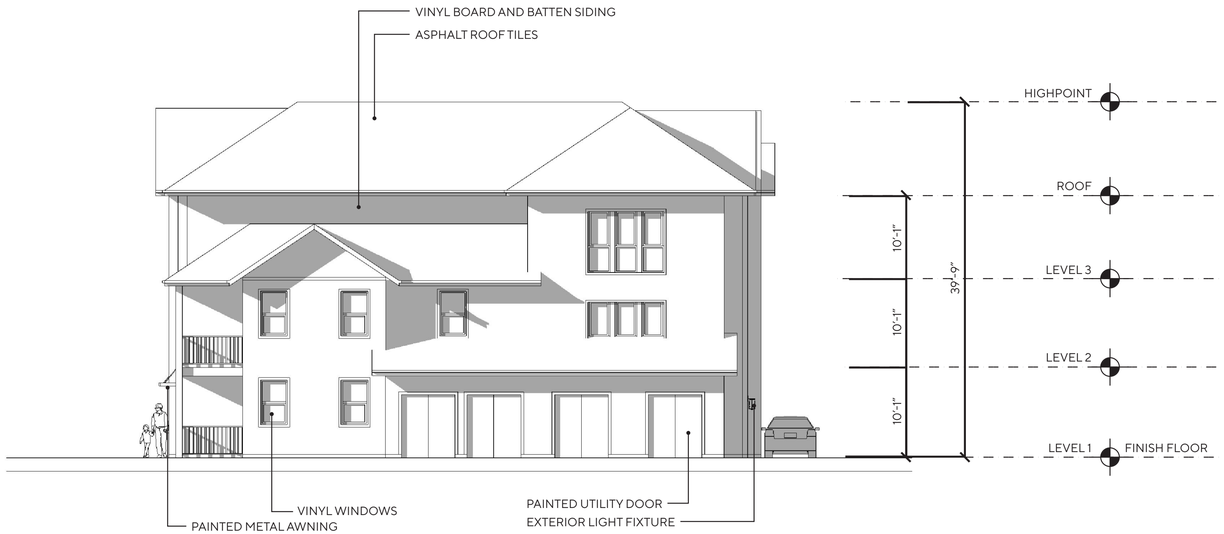
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

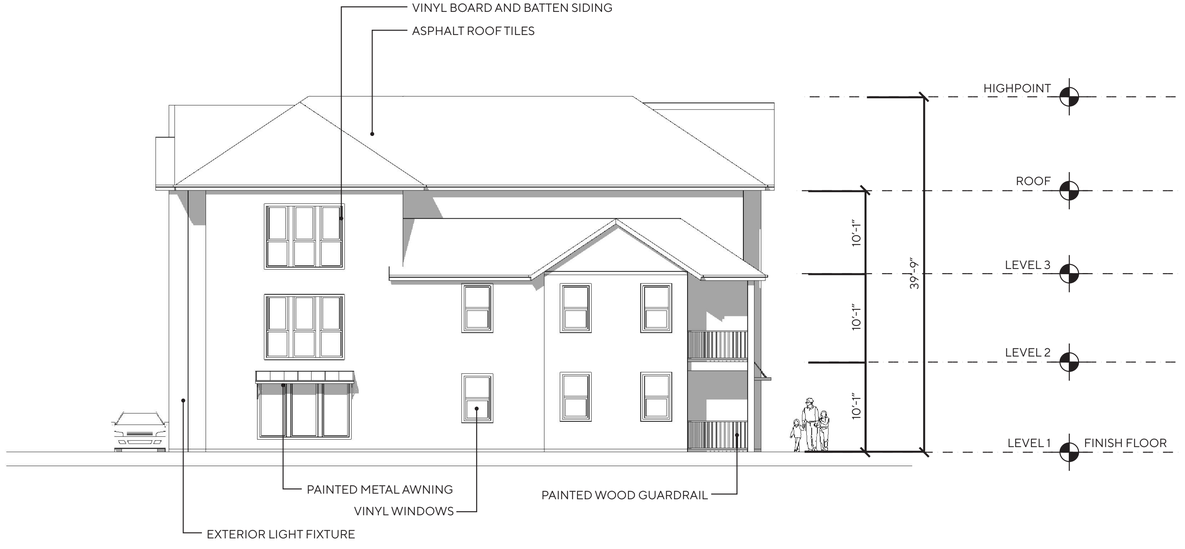
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 EAST



BUILDING 5 WEST

WILDOMAR CROSSROADS

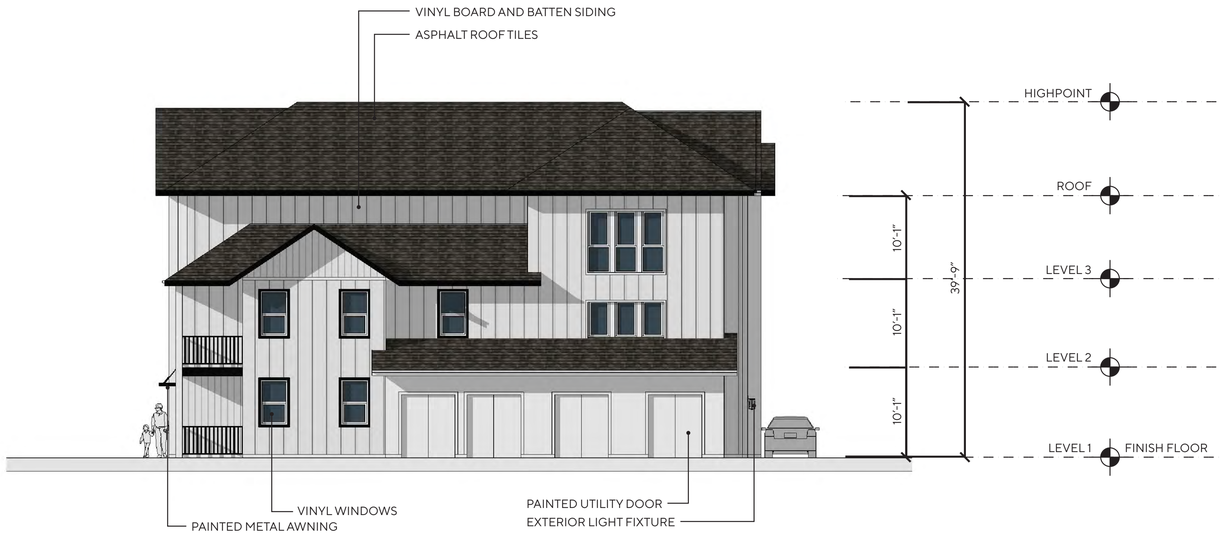
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



BUILDING 5 EAST



BUILDING 5 WEST

WILDOMAR CROSSROADS

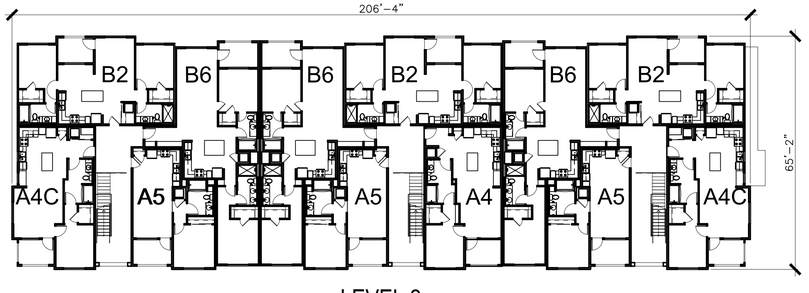
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

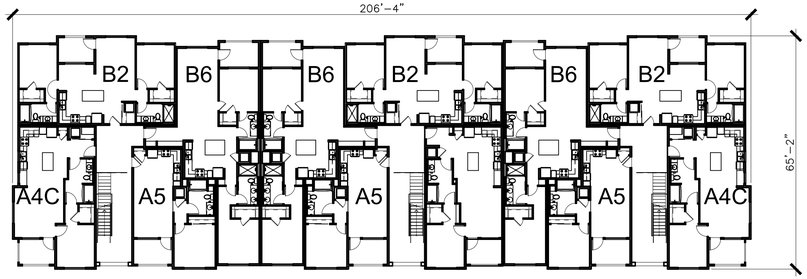
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

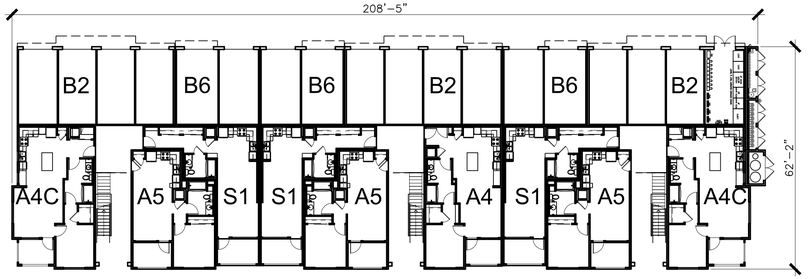
Architecture.
Design.
Relationships.



LEVEL 2



LEVEL 3



LEVEL 1

BUILDINGS 1 AND 2

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS - BLDGS. 1, 2

WILDOMAR CROSSROADS

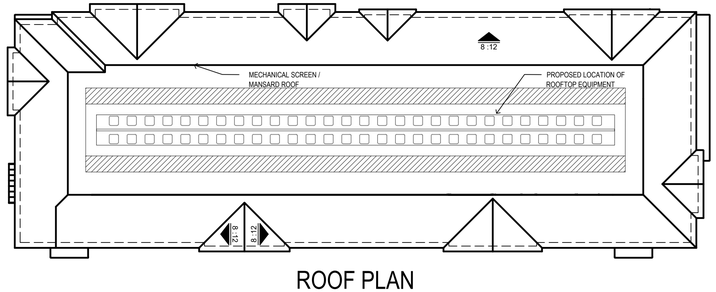
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

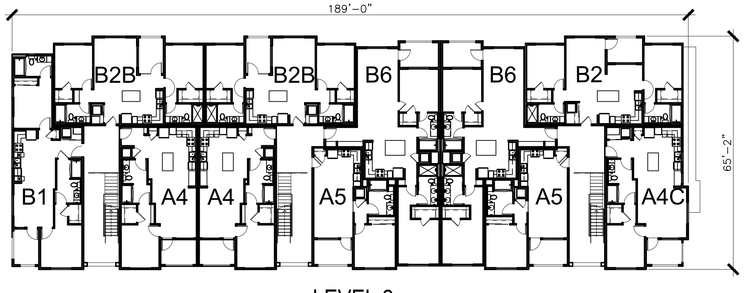
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

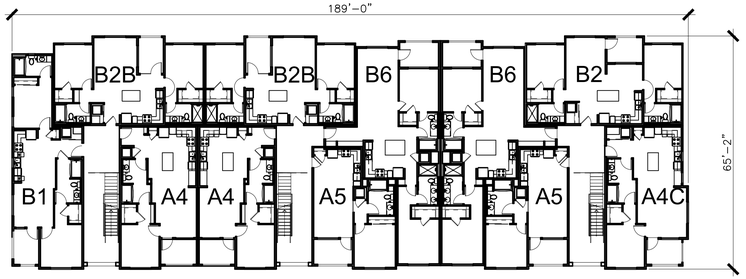
Architecture.
Design.
Relationships.



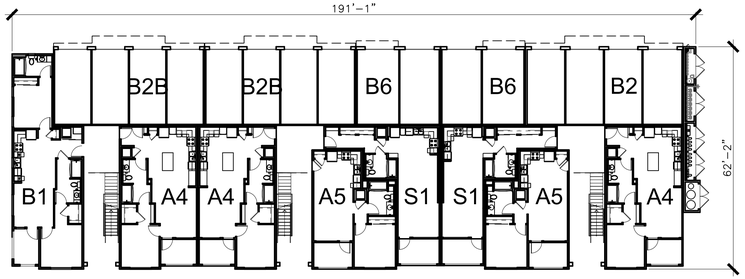
ROOF PLAN



LEVEL 2



LEVEL 3



LEVEL 1

BUILDING 3

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS AND ROOF PLAN - BLDG. 3

WILDOMAR CROSSROADS

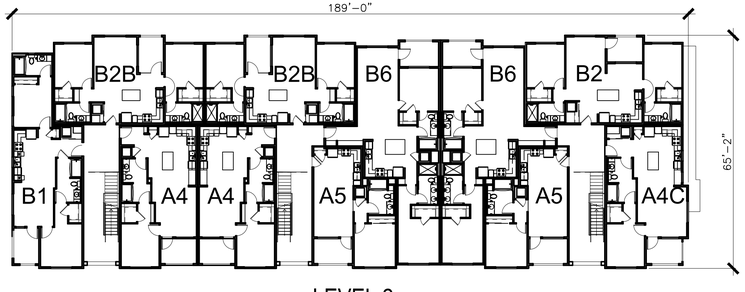
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

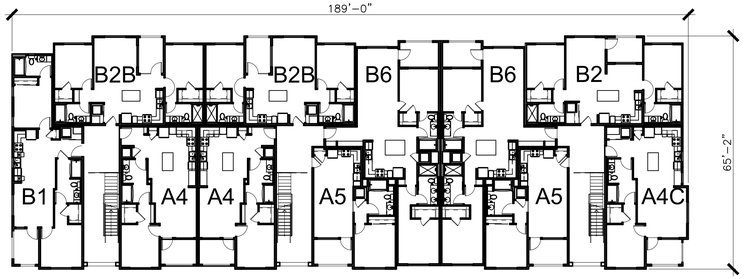
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

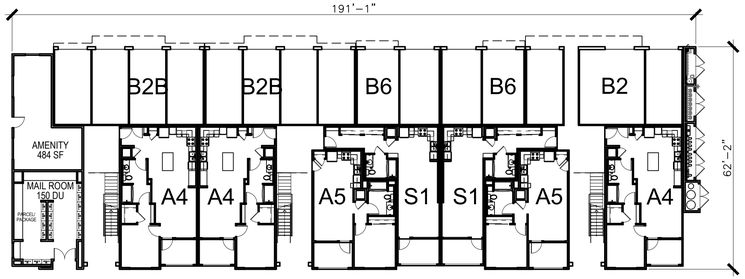
Architecture.
Design.
Relationships.



LEVEL 2



LEVEL 3



LEVEL 1

BUILDING 4

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS - BLDG. 4

WILDOMAR CROSSROADS

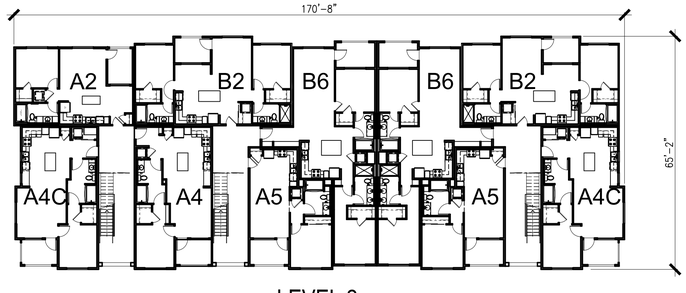
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

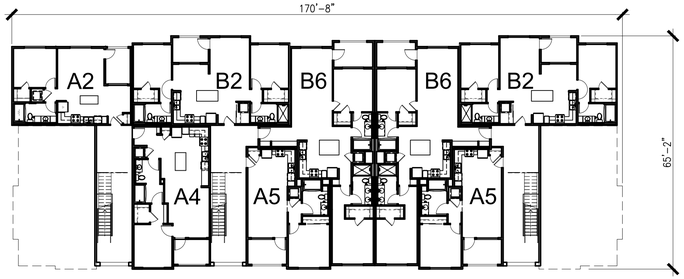
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

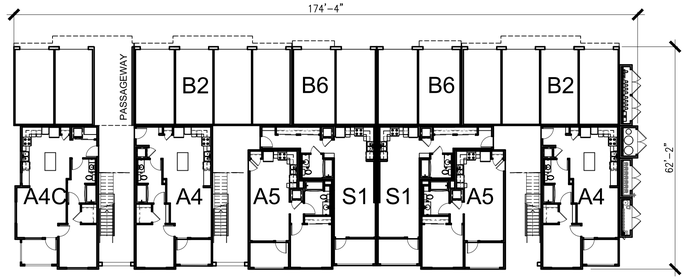
Architecture.
Design.
Relationships.



LEVEL 2



LEVEL 3



LEVEL 1

BUILDING 5

1"=20'-0" 0 10' 20' 40' 60'

CONCEPTUAL BUILDING PLANS - BLDG. 5

WILDOMAR CROSSROADS

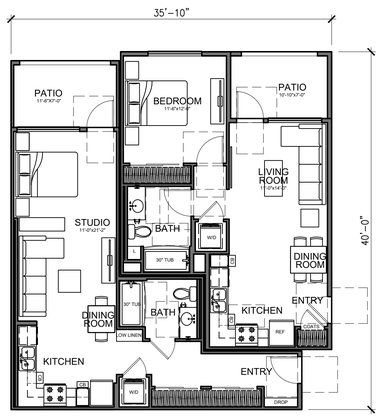
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

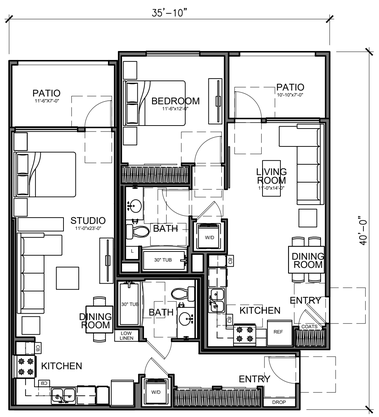
AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



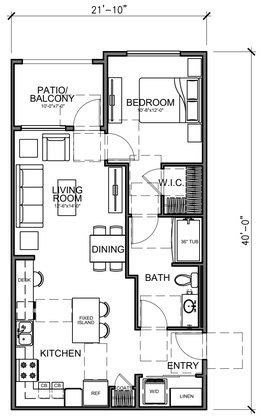
UNIT S1: STUDIO
LIVABLE AREA: 594 SQ. FT.
PATIO AREA: 81 SQ. FT.
QUANTITY: 12

UNIT A5: 1BR / 1BA
LIVABLE AREA: 622 SQ. FT.
PATIO/ BALCONY AREA: 76 SQ. FT.
QUANTITY: 36

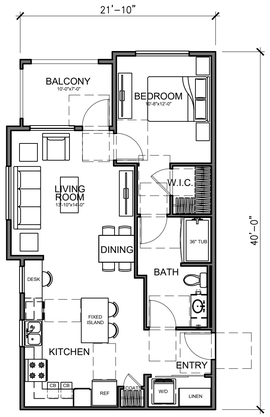


UNIT S1-ALT: STUDIO
LIVABLE AREA: 594 SQ. FT.
PATIO AREA: 81 SQ. FT.
QUANTITY: 12

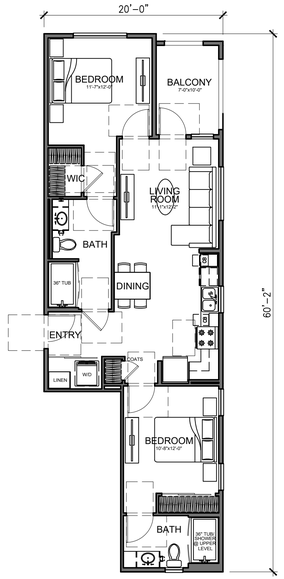
UNIT A5: 1BR / 1BA
LIVABLE AREA: 622 SQ. FT.
PATIO/ BALCONY AREA: 76 SQ. FT.
QUANTITY: 36



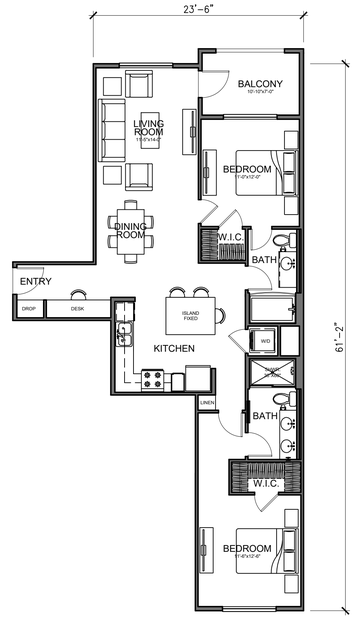
UNIT A4: 1BR / 1BA
LIVABLE AREA: 788 SQ. FT.
PATIO/ BALCONY AREA: 70 SQ. FT.
QUANTITY: 24



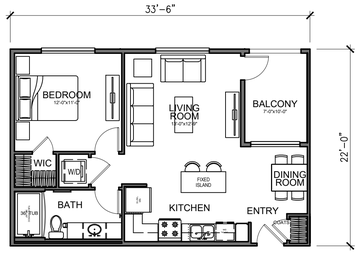
UNIT A4C: 1BR / 1BA
LIVABLE AREA: 810 SQ. FT.
PATIO/ BALCONY AREA: 70 SQ. FT.
QUANTITY: 19



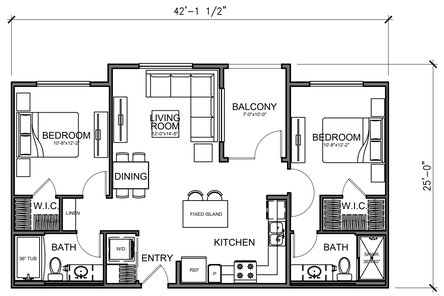
UNIT B1: 2BR / 2BA
LIVABLE AREA: 946 SQ. FT.
PATIO/ BALCONY AREA: 70 SQ. FT.
QUANTITY: 5



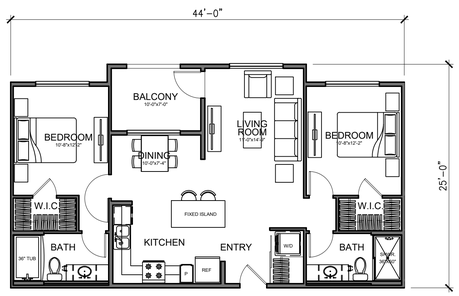
UNIT B6: 2BR / 2BA
LIVABLE AREA: 1139 SQ. FT.
BALCONY AREA: 76 SQ. FT.
QUANTITY: 24



UNIT A2: 1BR / 1BA
LIVABLE AREA: 661 SQ. FT.
BALCONY AREA: 70 SQ. FT.
QUANTITY: 2



UNIT B2B: 2BR / 2BA
LIVABLE AREA: 936 SQ. FT.
BALCONY AREA: 70 SQ. FT.
QUANTITY: 8



UNIT B2: 2BR / 2BA
LIVABLE AREA: 981 SQ. FT.
BALCONY AREA: 70 SQ. FT.
QUANTITY: 20

1/8"=1'-0" 0 4' 8' 16' 24'

CONCEPTUAL UNIT PLANS

WILDOMAR CROSSROADS

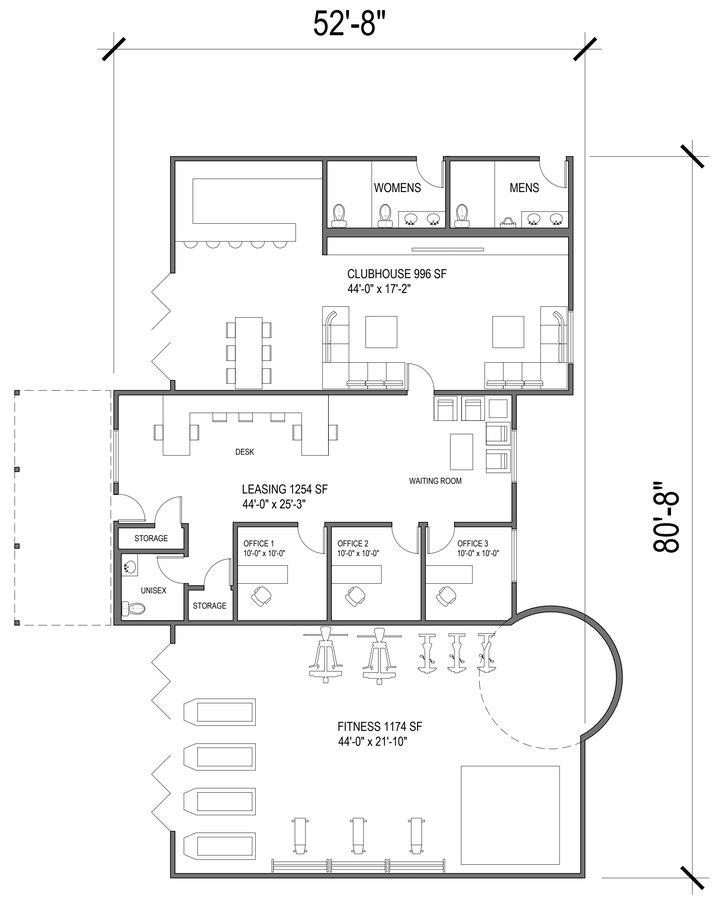
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY BUILDING
AREA: 3728 SQ. FT.

FLOOR PLAN

1/8"=1'-0" 0 4' 8' 16' 24'

CONCEPTUAL AMENITY PLAN

WILDOMAR CROSSROADS

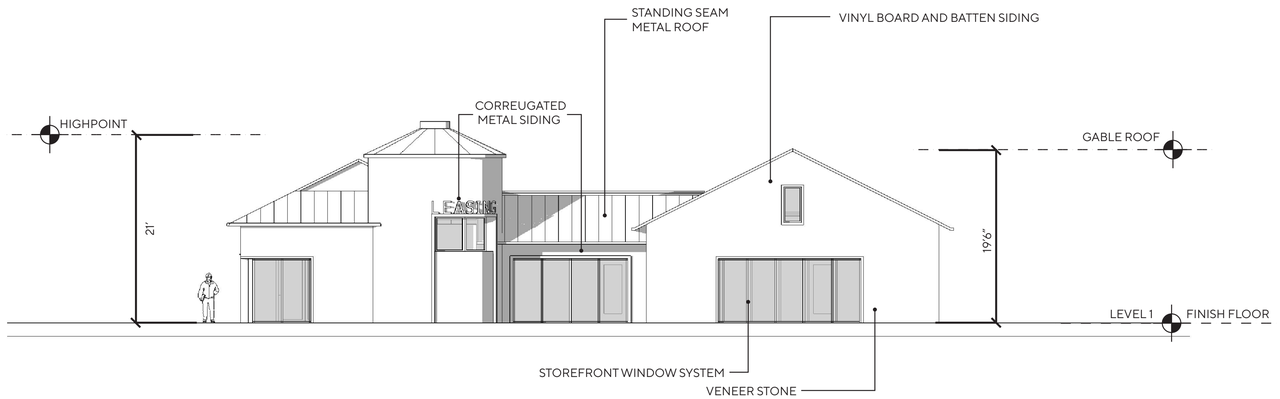
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

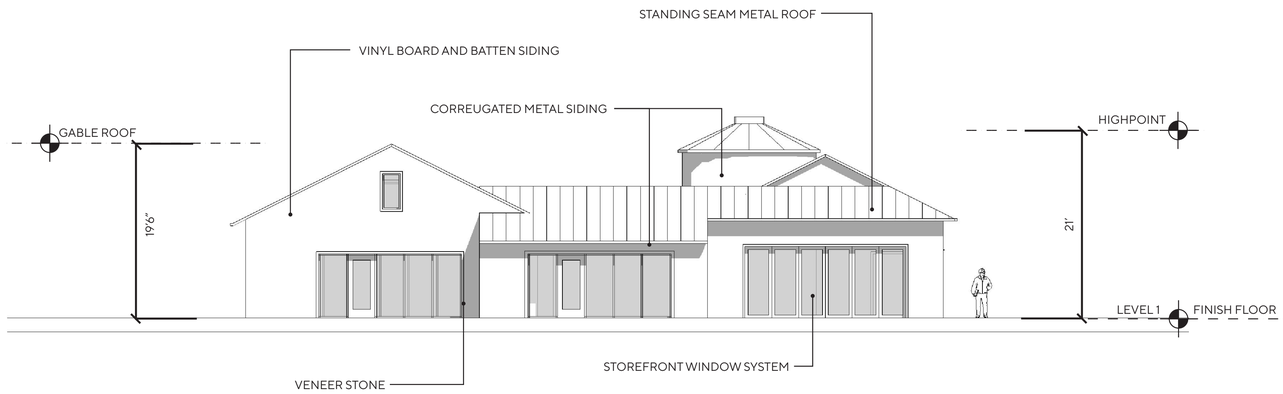
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY SOUTH



AMENTIY NORTH

WILDOMAR CROSSROADS

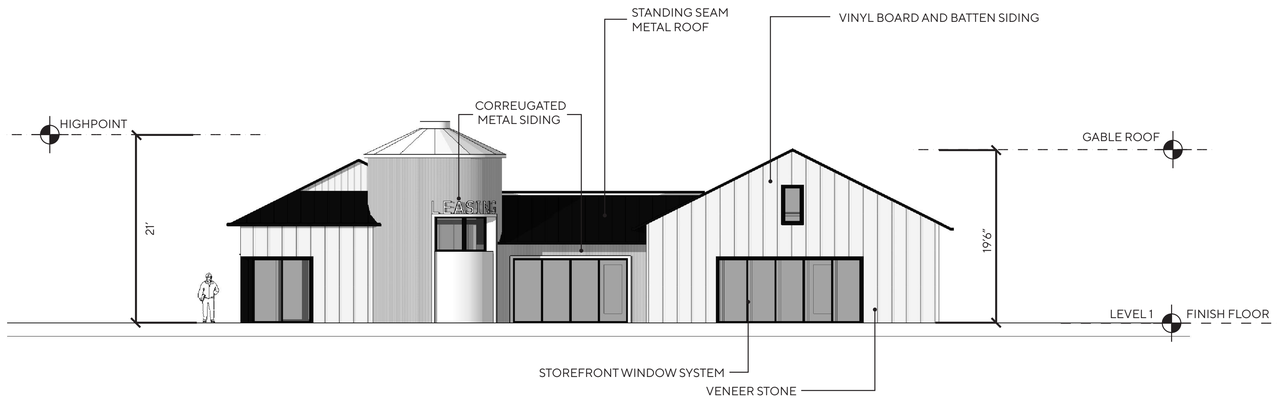
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

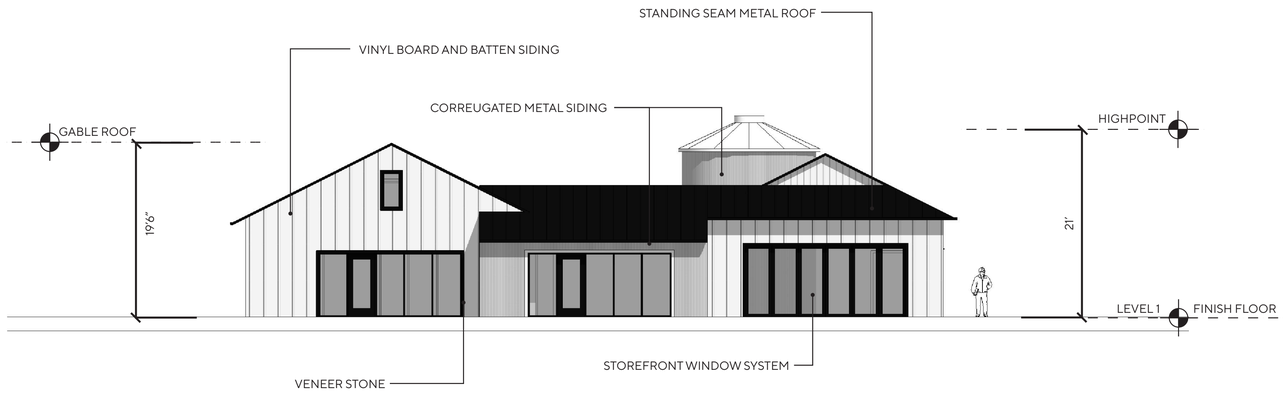
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY SOUTH



AMENTIY NORTH

WILDOMAR CROSSROADS

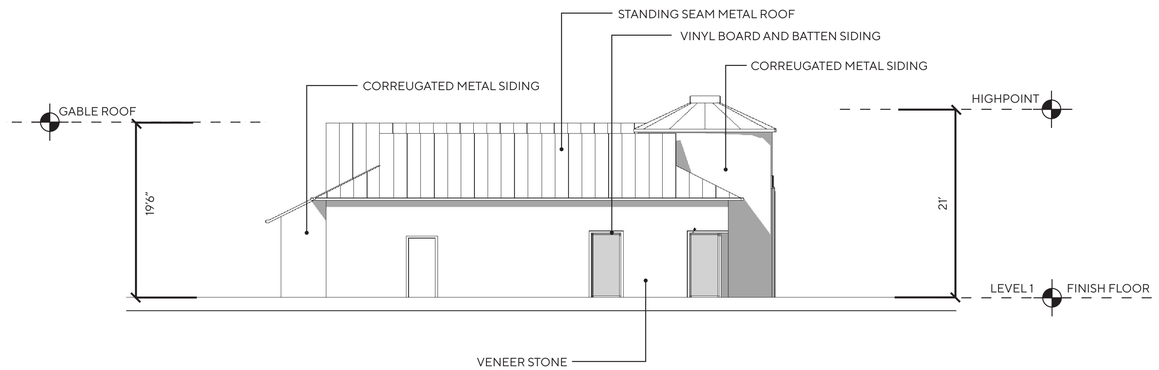
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

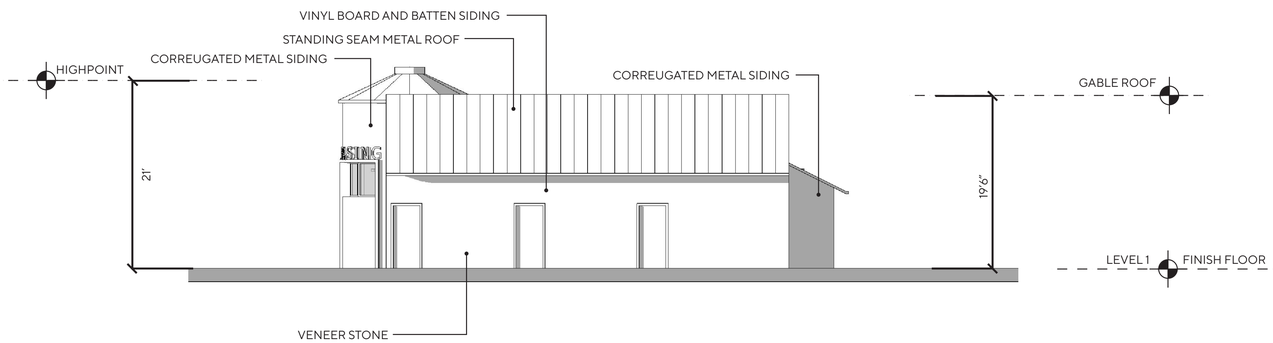
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY EAST



AMENTIY WEST

WILDOMAR CROSSROADS

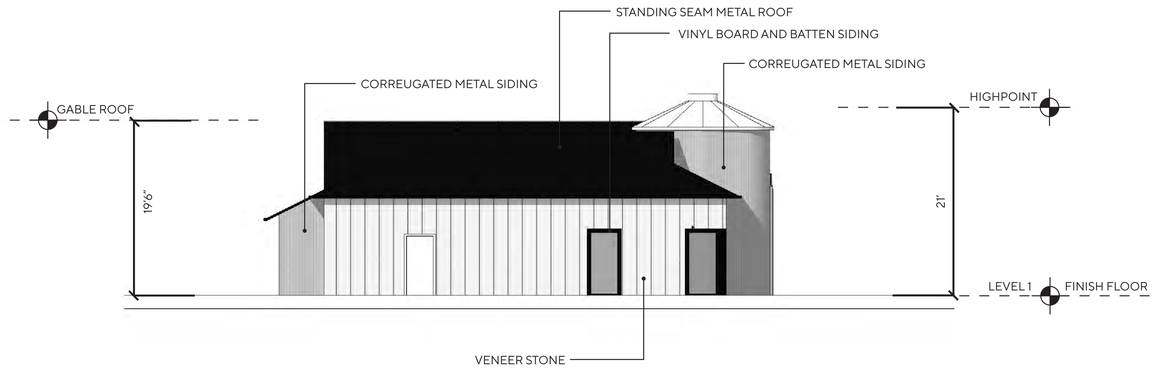
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

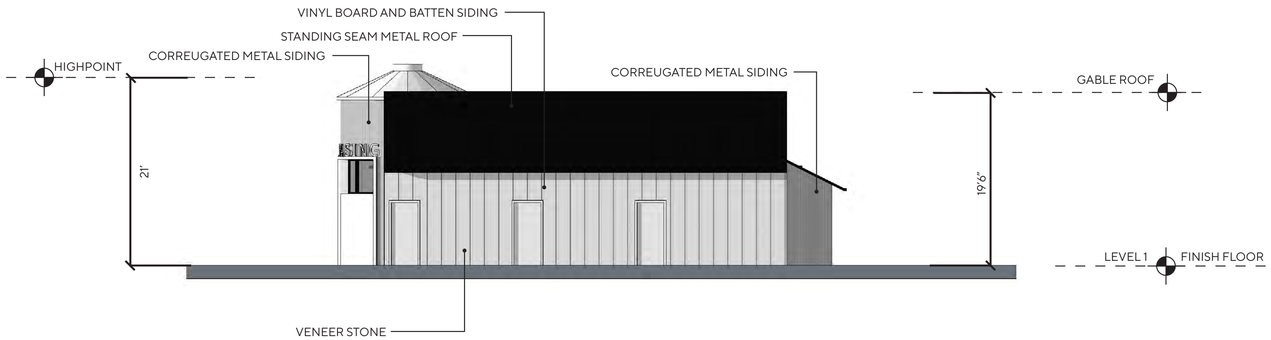
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.



AMENITY EAST



AMENTIY WEST

WILDOMAR CROSSROADS

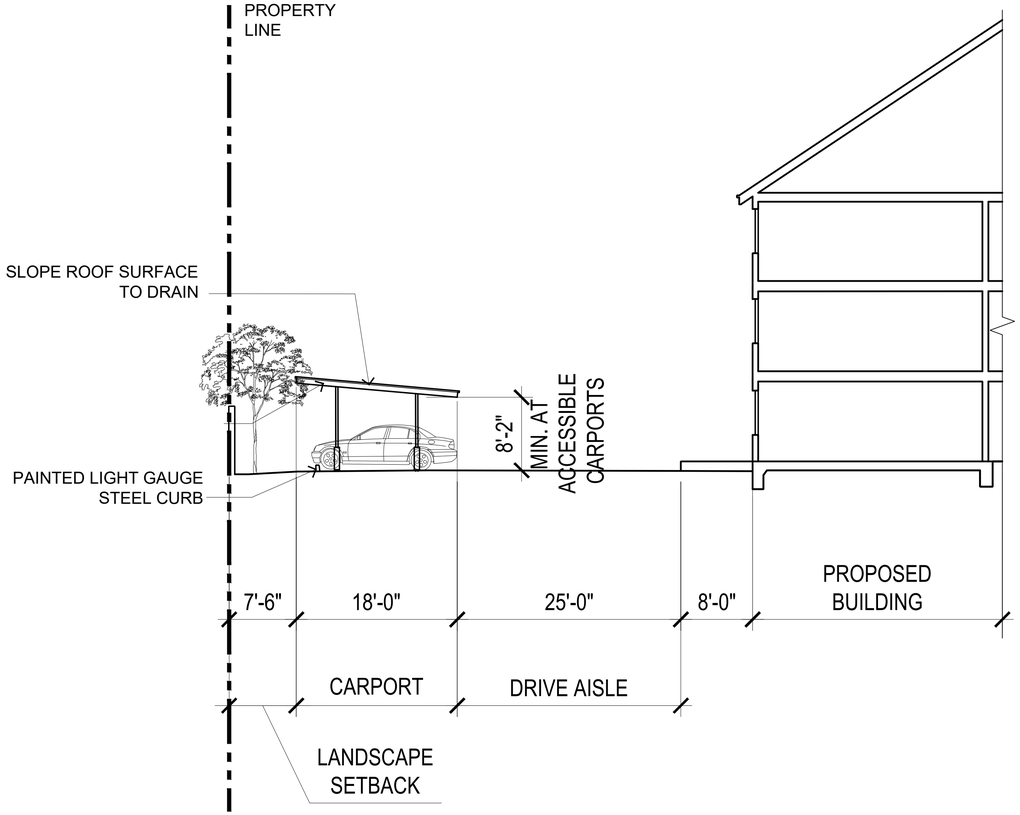
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

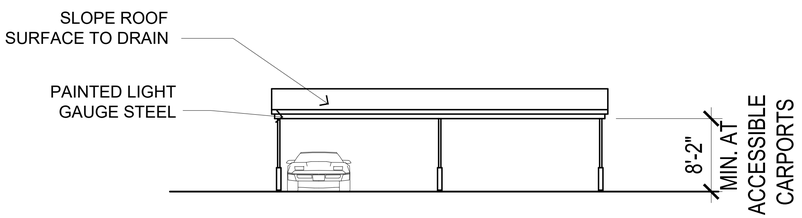
INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

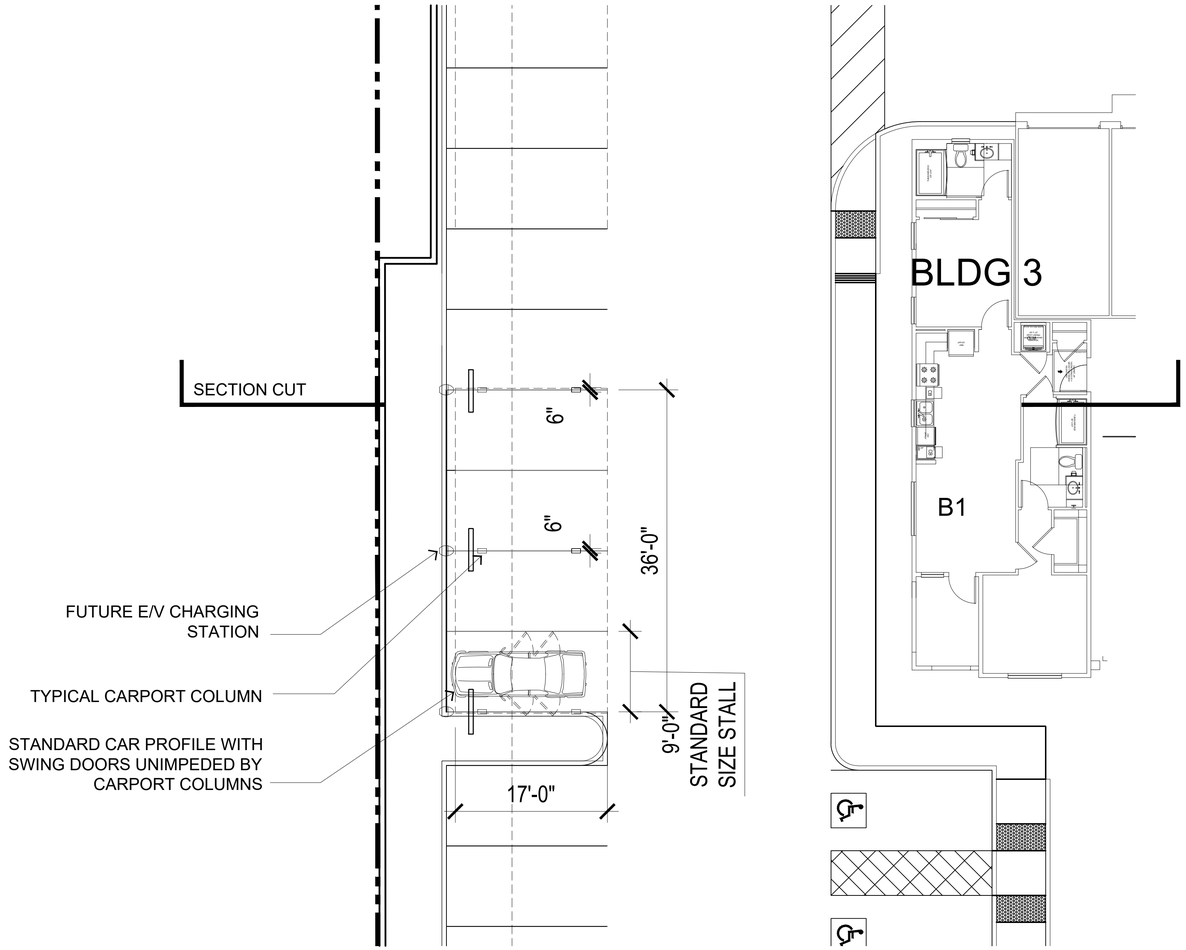
Architecture.
Design.
Relationships.



SECTION



FRONT ELEVATION



PLAN VIEW

1/8"=1'-0" 0 4' 8' 16' 24'

PARKING SECTION

77

WILDOMAR CROSSROADS

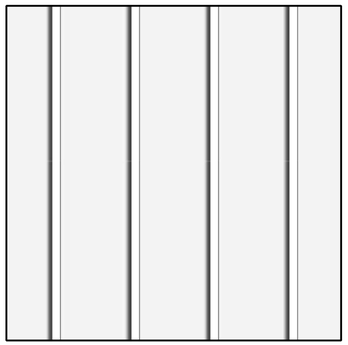
WILDOMAR, CALIFORNIA

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture. Design. Relationships.



SD01
BOARD AND BATTEN
CEMENTITIOUS SIDING
FINISH: LIGHT SAND FINISH
COLOR: BENJAMIN MOORE
872 WHITE CHRISTMAS



WD01
PAINTED WOOD TRIM
872 WHITE CHRISTMAS



01
BENJAMIN MOORE
2133-10 ONYX

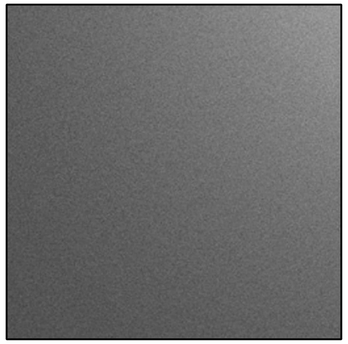
02
BENJAMIN MOORE
872 WHITE CHRISTMAS



ALUMINUM STORE
FRONT SYSTEM
CLEAR ANODIZED



RF01
ASPHALT COMPOSITION
ROOF SHINGLES



MT01
PAINTED METAL CANOPY



W01
VINYL 'NAIL ON' WINDOWS
COLOR: OFF WHITE

WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

MATERIAL BOARD

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.

KEYNOTES:

SD01 - BOARD AND BATTEN CEMENTITIOUS SIDING

WD01 - PAINTED BLACK TRIM TO MATCH 01 PAINT SPEC

RF01 - ASPHALT COMPOSITION ROOF SHINGLES

MT01 - PAINTED METAL CANOPY

W01 - VINYL "NAIL ON" WINDOWS (OFF WHITE)

ST01 - STUCCO FINISH

01 - BENJAMIN MOORE 2133-10 ONYX

02 - BENJAMIN MOORE 872 WHITE CHRISTMAS



WILDOMAR CROSSROADS

WILDOMAR, CALIFORNIA

RESIDENTIAL DISTRICT COLORS

DATE: 06-23-22
JOB NO.: 2021-275

INTRACORP SW, LLC
895 Dove St., Suite 400, Newport Beach, Ca. 92660
949.293-5737

AO ARCHITECTS
144 NORTH ORANGE ST., ORANGE, CA 92866
(714) 639-9860

Architecture.
Design.
Relationships.

2760

C-P-S Zone (Chapter 17.76) Development Standards Table for Commercial Retail Center

Development Standards	Minimum Development Standard	All Buildings	Meets/Exceeds Requirements
Lot Area	No minimum lot area	5.03 acres	Yes
Building Height	50 feet max.	29.0 to 38.5 feet	Yes
Required Setbacks			
Front Setback (south elev.)	6 feet min.	25 – 140 feet	Yes
Rear Setback (north elev.)	6 feet min.	88 feet	Yes
Side Setback (east elev.)	6 feet min.	40 - 62 feet	Yes
west elev.)	6 feet min.	10 – 29 feet	Yes

Parking Standards (Sec. 17.188) Table for Commercial Retail Project

Parking Standards	Minimum Parking Requirement Standard	Proposed Project	Meets/Exceeds Requirements
Commercial Retail Buildings (34,450 s.f.)	5.5 spaces / 1,000 s.f. = 190 spaces	195 spaces	Yes
Parking Stall Size (open)	9’ x 18’ 11’ x 18’ (end stalls)	9’ x 18’ 11’ x 18’ (end stalls)	Yes
On-site Drive Aisles	24 feet min.	25 feet minimum	Yes
Open Parking Area Shading	50%	61%	Yes
Cal Green Code	10%	15±%	Yes

Multi-Family Zone (17.44.020) Development Standards Table for Apartment Project site

Development Standards	Development Standard	Proposed Project	Meets/Exceeds Requirements
Minimum Lot Area	7,200 square feet (60' x 100')	4.5 +/- acres	Yes
Required Setbacks			
Front Street Setbacks (along Catt Road)	20' min. since buildings are 39.9' in height	22' min. along Catt Road (all buildings are 39.9' in height)	Yes
Rear Setbacks (north property line)	20' min. since buildings are 39.9' in height	75' min. along entire rear property line.	Yes
Side Setback (adjacent to Retail Center & west property line)	10' min. since buildings are 39.9' in height	10' min. between Retail Center and 75' from west prop. line)	Yes
Building Height	50' maximum	39.9' maximum	Yes
Density Range (MU Overlay)	30+ units/acre	33.5 units/acre	Yes

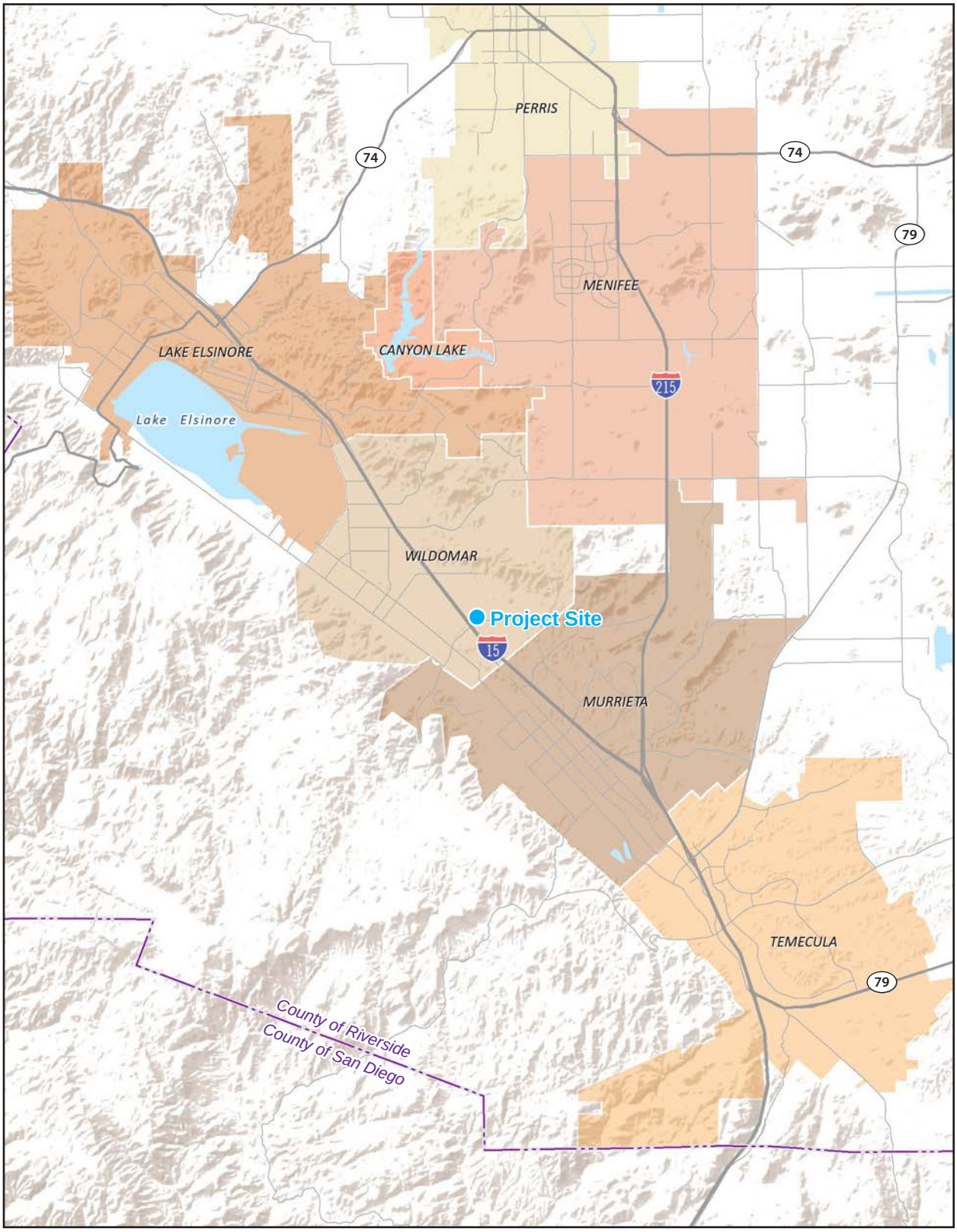
Multi-Family Parking (Sec. 17.188) Standards Table for Apartment Project

Development Standards	Minimum Parking Requirement Standard	Provided by Project	Meets/Exceeds Requirements
Proposed Apartments			
Studio & 1 bedroom units (93 units @ 1.25 spaces/unit)	116.5 spaces	116.5 spaces	Yes
2 bedroom units (57 units @ 2.25 spaces/unit)	128.5 spaces	267.5 spaces	Yes
Visitor Parking (15% of 245 sp.)	37.0	37.0	Yes
Total Spaces	**282 spaces**	**282 spaces**	**Yes**
Parking Stall Size	9' x 18' 11' x 18' (end stalls)	9' x 18' 11' x 18'	Yes
Garage Stall Size: Single Car Garage Size 2 Car Garage Size)	 9' x 20' 18' x 20'	 10'-8" x 20'-9" 20'-6" x 20'-2"	 Yes Yes
On-site Drive Aisles	25 feet	25 feet	Yes
E.V. Parking Stalls (per Cal Green Code) – Garage will have EV outlets for EV cars	27 spaces	27 spaces	Yes

Unit Breakdown and Size Table for Apartment Project Site

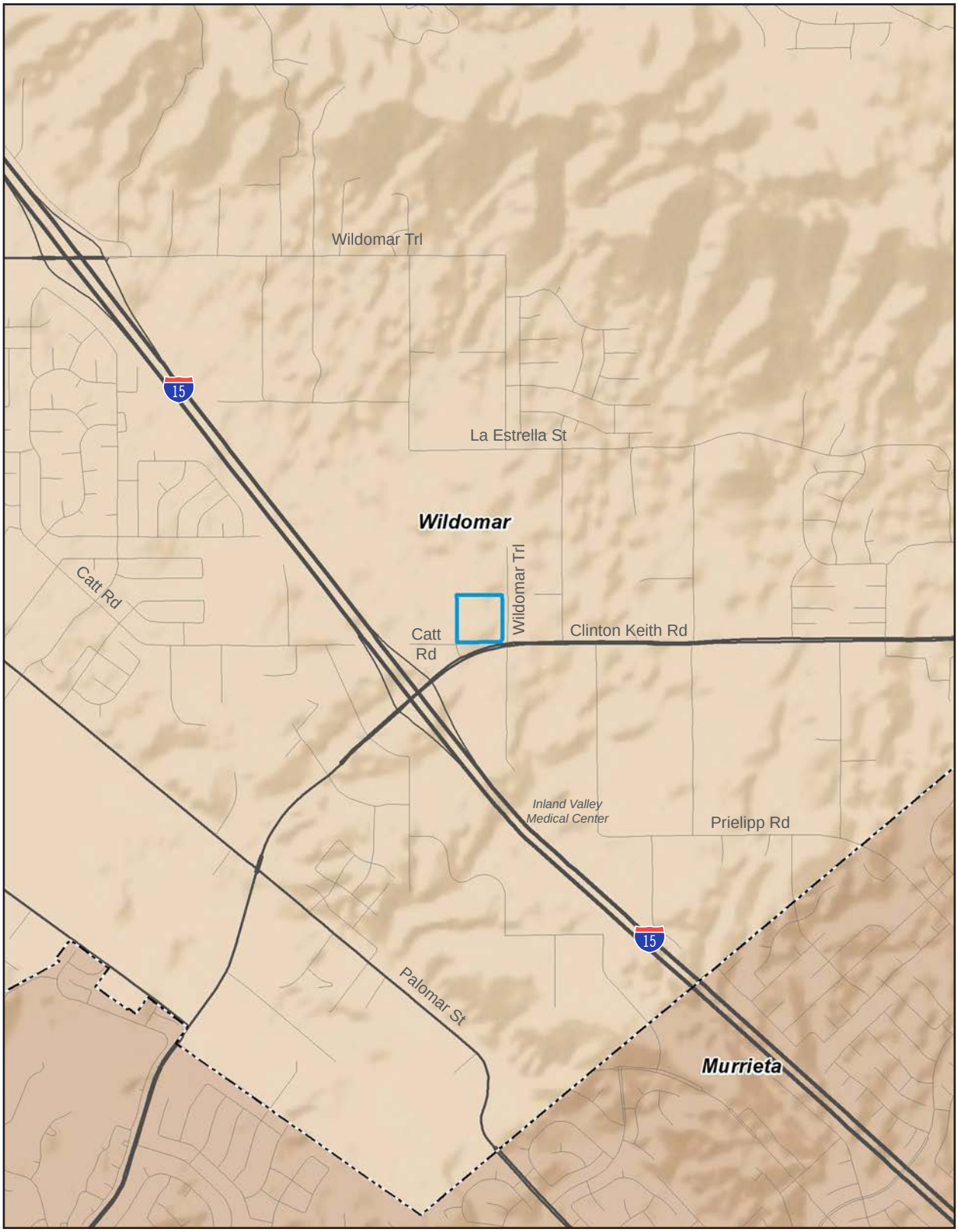
Unit Type	Unit Quantity	Unit Size(s)	# of Bedrooms
Studio Units (8%)	12 units	580 square feet	Studio
1-Bedroom Units (54%)	81 units	630 to 810 square feet	1-Bedroom
2-Bedroom Units (38%)	57 units	936 to 1,115 square feet	2-Bedroom
Total Count	**109 Units**	826 square feet average	

Figure 1 - Regional Location



Note: Unincorporated county areas are shown in white.
Source: ESRI, 2022

Figure 2 - Local Vicinity



Project Boundary

Note: Unincorporated county areas are shown in white.

Source: ESRI, 2022

0 2,000
Scale (Feet)

PlaceWorks

Figure 3 - Aerial Photogarph



Source: Nearmap, 2022

Wildomar Crossroads Colored Renderings / Site Plan Exhibits

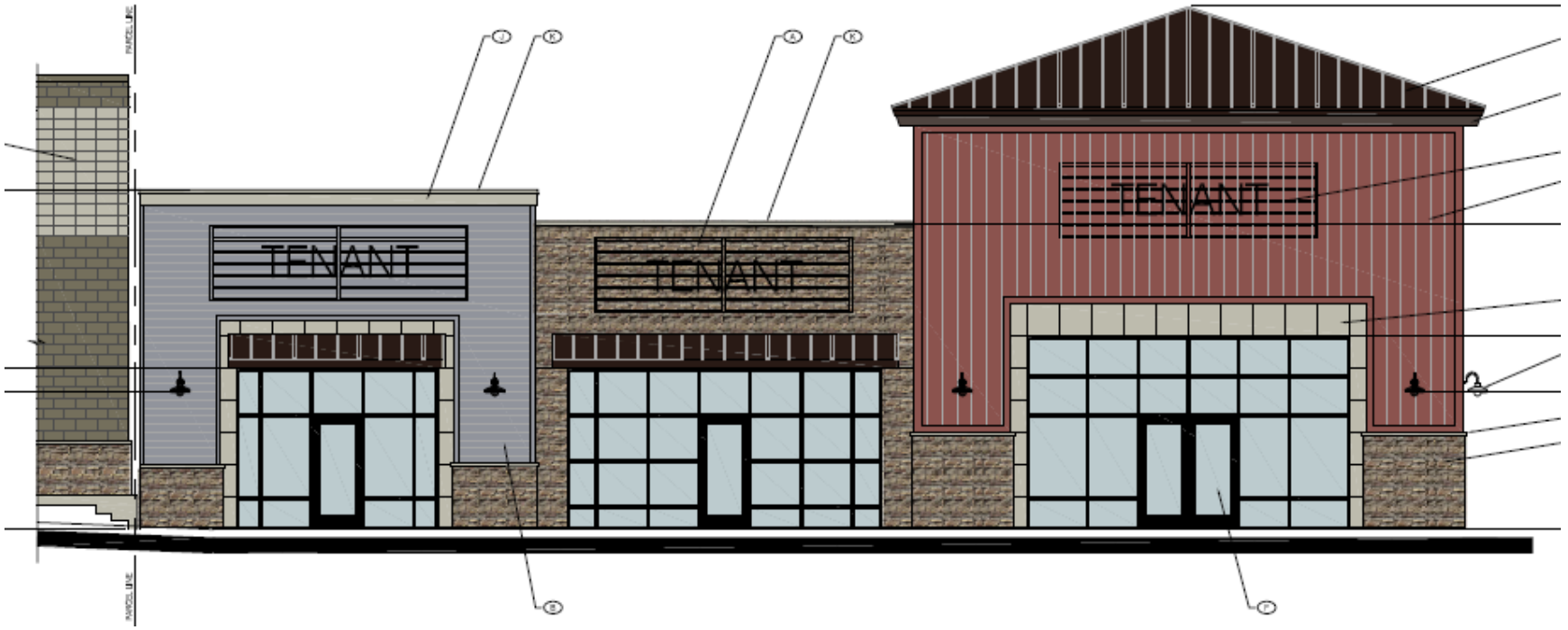
Illustrative Perspective Looking From CKR/Wildomar Trail Intersection





Multi-Tenant Building Elevations



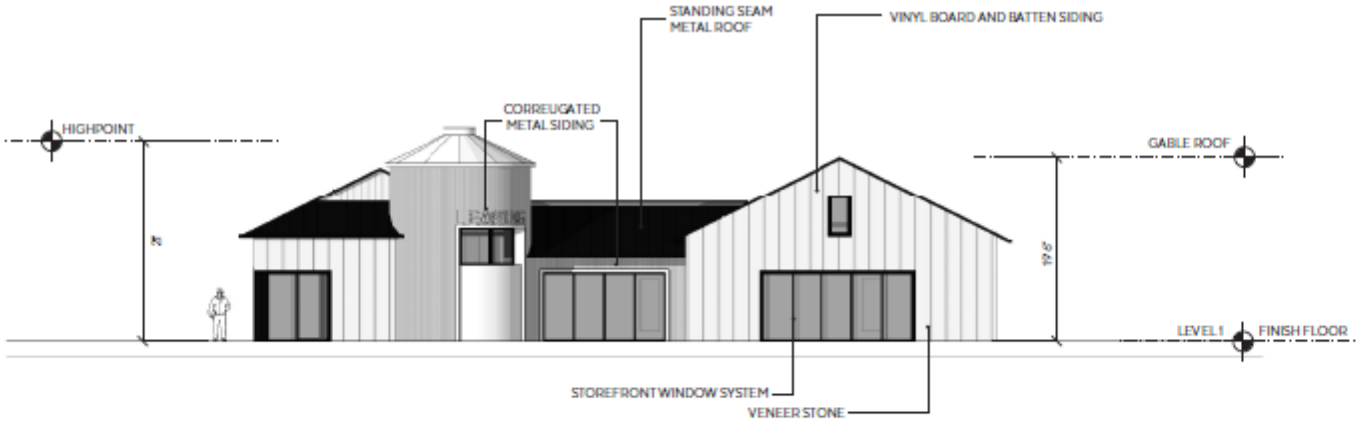


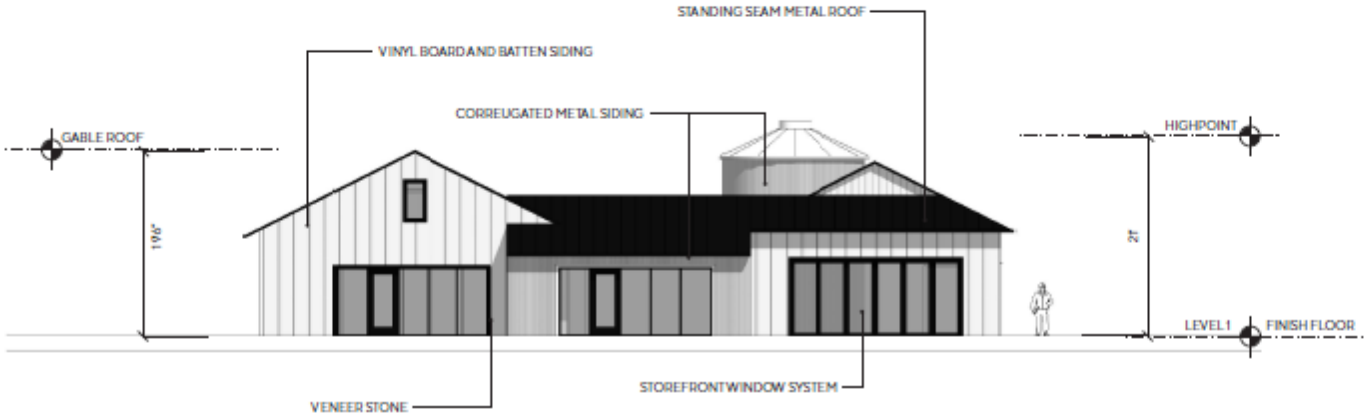
Typical Multi-Family Apartment Building Elevations





Clubhouse/Leasing Office Elevations





Enhanced Pool/Rec Area Exhibit



Colored Landscape Plan Exhibit



CITY OF WILDOMAR - PC - SPECIAL MEETING
GENERAL BUSINESS
Agenda Staff Report # 3.1
Meeting Date: October 19, 2022

SUBJECT: Proper Findings in Land Use Decisions

SUBMITTED BY: Janet Morales, City Attorney

PREPARED BY: Matthew Bassi, Planning Director

ACTION:
The Planning Department recommends the Planning Commission Receive and File this presentation.

PROJECT DESCRIPTION:
Land use decisions are frequently challenged in court. When judges review land use decisions, they need to examine the evidence and the reasons why local agencies either approved or denied the project. These reasons, along with the supporting evidence for a land use decision, are known as "findings." This means that the documentation supporting the approval or denial of a project must include an explanation of how a city agency, such as a planning commission or city council, processed the evidence presented when reaching its decision.

PROJECT ANALYSIS:
Findings are the legal "footprints" that an agency must leave to bridge the analytical gab between the raw data considered by the agency and its ultimate decision. They expose an agency's mode of analysis of facts, regulations, and policies. It is recommended that these findings be written and addressed in the material presented to the Planning Commission.

Certain items presented to the Planning Commission, including Conditional Use Permits, require the adoption of written findings to support their action. Findings are not required to follow a particular form. (Topanga Ass'n for a Scenic Community v. County of Los Angeles (1974) 11 Cal.3d 506). Courts focus on substance over form in challenges to the adequacy of findings. In practice, the organization and presentation of findings vary significantly between jurisdictions. Courts are generally deferential towards local land use decisions so long as they are adequate finding to support those decisions. Adequate findings are findings that clearly

show that the Planning Commission considered the required factors and that the local agency based its decision, in a reasoned way, on legally required or permissible considerations.

Dependent on the item before the Planning Commission, Commissioners should consider the answer to the following questions:

- Is the request consistent with the intent and purpose of the general plan and zoning ordinance?

- Is the request compatible with the surrounding zoning?

- Will the proposed development have density impacts that are similar to surrounding areas?

- Is there adequate ingress/egress?

- Is there enough buildable area?

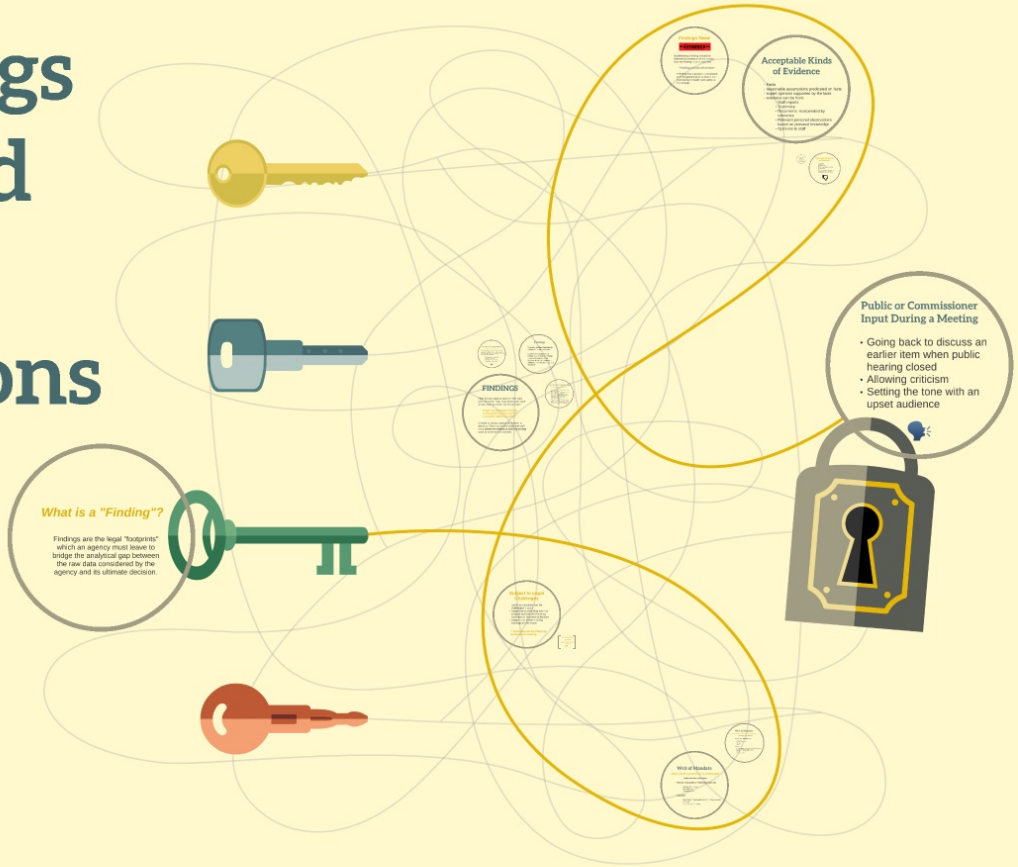
- Will the request cause any unreasonable adverse effects on the adjacent properties?

- Is the location and character proposed development considered to be consistent with the desirable pattern of development?

In summary, adequate findings are necessary to show a judge that the public agency compiled enough evidence and explained its reasoning well enough to reach its decision. A judge will not presume that a public agency's rulings rest upon necessary findings and that those findings are supported by substantial evidence. Rather, agencies must expressly set forth their findings and set forth sufficient facts to support them. We can all recall a high school Algebra teacher who said over and over, "You must show your work, or you won't get credit for the answer." Preparing adequate findings is like showing your work on a complex Algebra problem. Instead of simply showing the answer or the decision, public agencies must show the evidence and the reasoning used to arrive at the decision.

ATTACHMENTS:
Attach A - Proper Findings in Land Use Decisions ppt 10-19-22.pdf

Proper Findings in Land Use Decisions

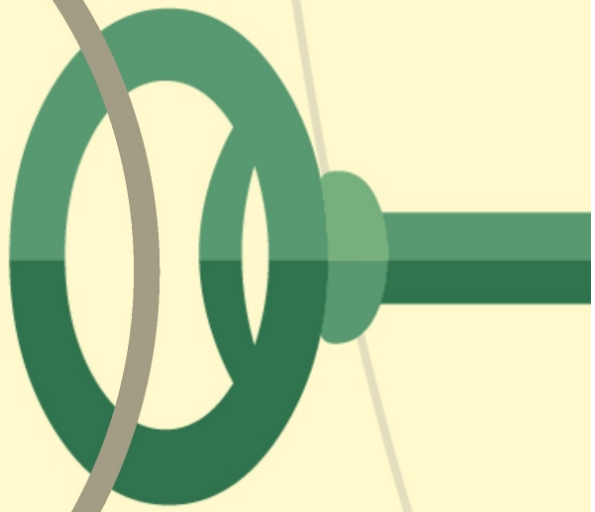


burke

BURKE, WILLIAMS & SORENSEN, LLP

What is a "Finding"?

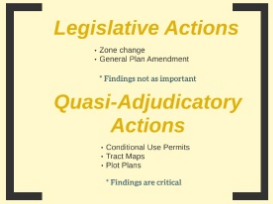
Findings are the legal "footprints" which an agency must leave to bridge the analytical gap between the raw data considered by the agency and its ultimate decision.



Subject to Legal Challenges

- Land use decisions can be challenged in court
- Judge has to read what went on to figure out how the Planning Commission reached its decision
- Judge is not present during hearings on the matter

***** Think beyond the Planning Commission meeting***



Legislative Actions

- Zone change
- General Plan Amendment

* **Findings not as important**

Quasi-Adjudicatory Actions

- Conditional Use Permits
- Tract Maps
- Plot Plans

* **Findings are critical**

Findings must be supported by evidence
No bias
No conflict of interest

Writ of Mandate

How a land use decision is challenged

Traditional Writ of Mandate

- **Review of Legislative / Ministerial Decisions**

  Zoning Ordinance
  Specific Plan
  General Plan

- **Standard**

  Must have "reasonable basis" for the decision
  No bias
  No conflict of interest

Writ of Mandate

How a land use decision is challenged

Administrative Writ of Mandate

- **Review of Quasi-Judicial Decisions**

  Tract maps
  Conditional Use Permit
  Plot Plan
  Variance

- **Standard**

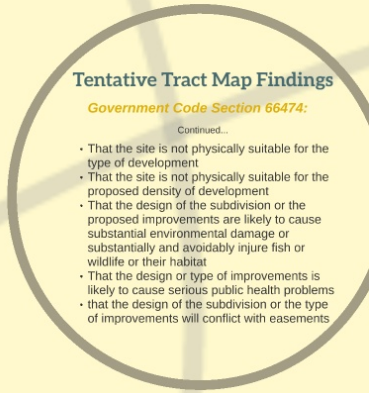
  No prejudicial abuse of discretion by Planning Commission
  Decision must be supported by findings
  Findings must be supported by evidence
  No bias
  No conflict of interest

FINDINGS

High School algebra teacher who said over and over, "you must show your work or you wont get credit for the answer."

Preparing adequate findings is like showing your work on a complex algebra problem.

Instead of simply stating the answer or decision, Planning Commission and staff must **show the evidence and reasoning** used to arrive at the decision.




Findings
Typically ***written statements*** contained in the resolution
Courts have expressed a willingness to look for findings in oral statements of the Agency at a public hearing in addition to written findings in a resolution.

Tentative Tract Map Findings

Government Code Section 66474:

A legislative body of a city or county shall deny approval of a tentative map, or a parcel map for which a tentative map was not required, if it makes any of the following findings:

- That the proposed map is not consistent with applicable general and specific plans as specified in Section 65451
- That the design or improvement of the proposed subdivision is not consistent with applicable general and specific plans



Tentative Tract Map Findings

Government Code Section 66474:

Continued...

- That the site is not physically suitable for the type of development
- That the site is not physically suitable for the proposed density of development
- That the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat
- That the design or type of improvements is likely to cause serious public health problems
- that the design of the subdivision or the type of improvements will conflict with easements

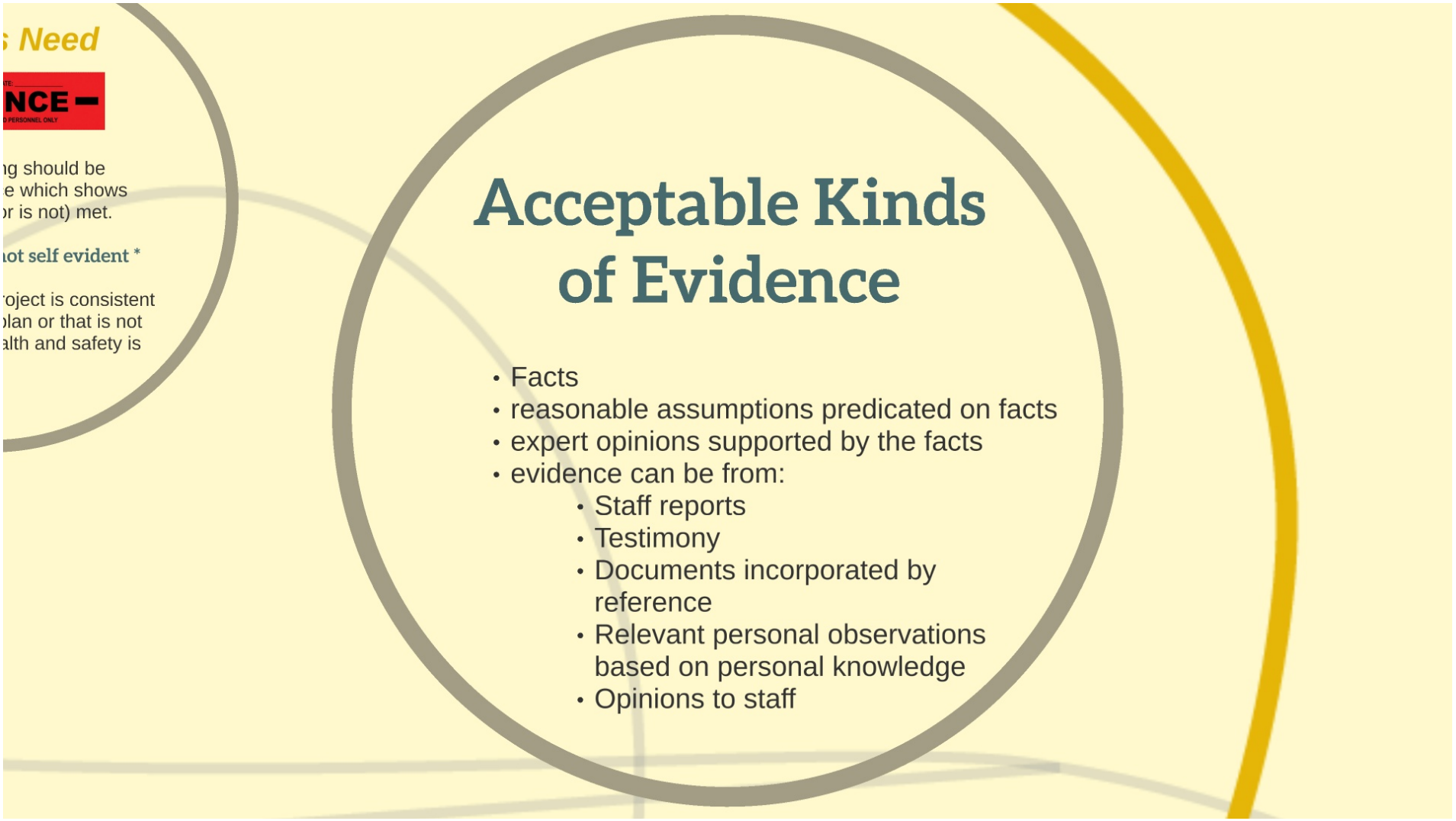
Findings Need



Establishing a finding should be followed by evidence which shows how the finding is (or is not) met.

*** Findings are not self evident ***

A finding that a project is consistent with the general plan or that is not detrimental to health and safety is not enough.


s Need
NCE –
ng should be
e which shows
or is not) met.
not self evident *
oject is consistent
olan or that is not
alth and safety is
Acceptable Kinds of Evidence
• Facts
• reasonable assumptions predicated on facts
• expert opinions supported by the facts
• evidence can be from:
• Staff reports
• Testimony
• Documents incorporated by reference
• Relevant personal observations based on personal knowledge
• Opinions to staff

Courts have also found certain facts, opinions and information as irrelevant to quasi judicial decisions.

Examples of considerations that are irrelevant for most planning commission decisions include the:

- economic viability of the project;
- desirability of the project;
- sales or rental price of dwellings;
- applicant's personal financial condition;
- applicants economic hardship;
- taxes or income generated by the project; and
- aesthetics of the house during subdivision approval

Unacceptable Kinds of Evidence

- Argument
- Speculation
- Unsubstantiated opinion or narrative
- Evidence which is clearly inaccurate or erroneous



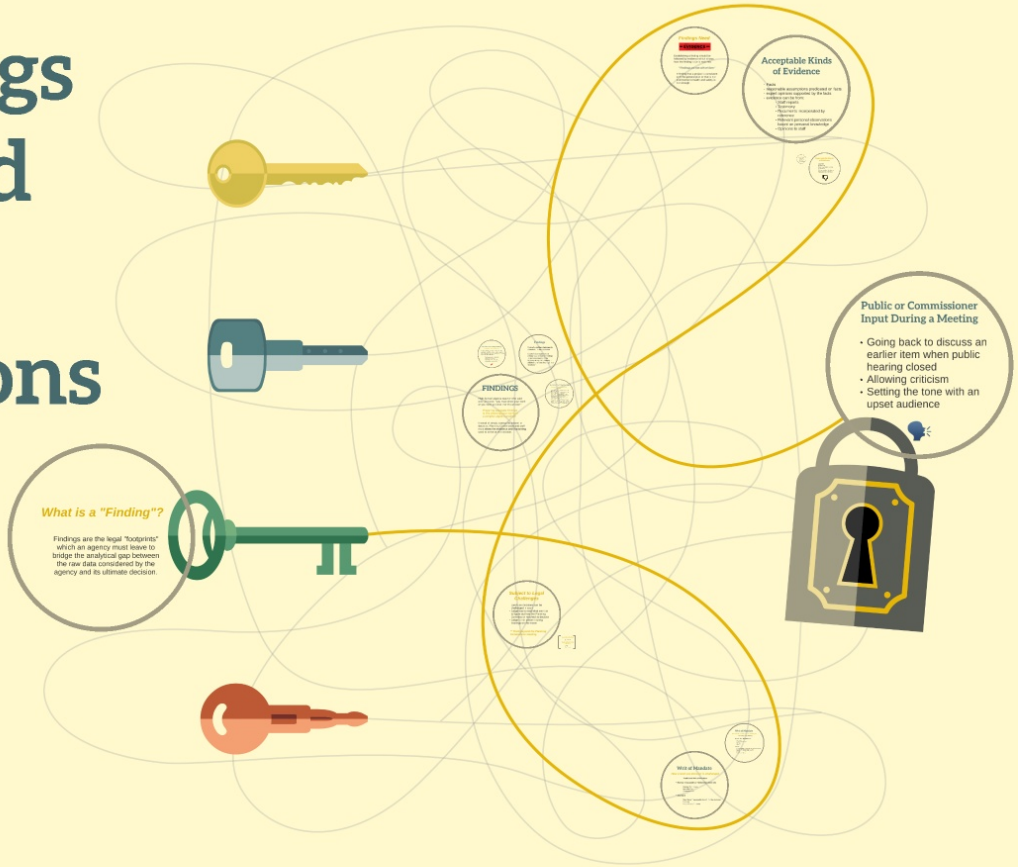
Courts have also found certain facts, opinions and information as irrelevant to quasi judicial decisions.

Examples of considerations that are irrelevant for most planning commission decisions include the:

- economic viability of the project;
- desirability of the project;
- sales or rental price of dwellings;
- applicant's personal financial condition;
- applicants economic hardship;
- taxes or income generated by the project; and
- aesthetics of the house during subdivision approval


Questions?

Proper Findings in Land Use Decisions



burke

BURKE, WILLIAMS & SORENSEN, LLP